



Wetlands And 401 Certification

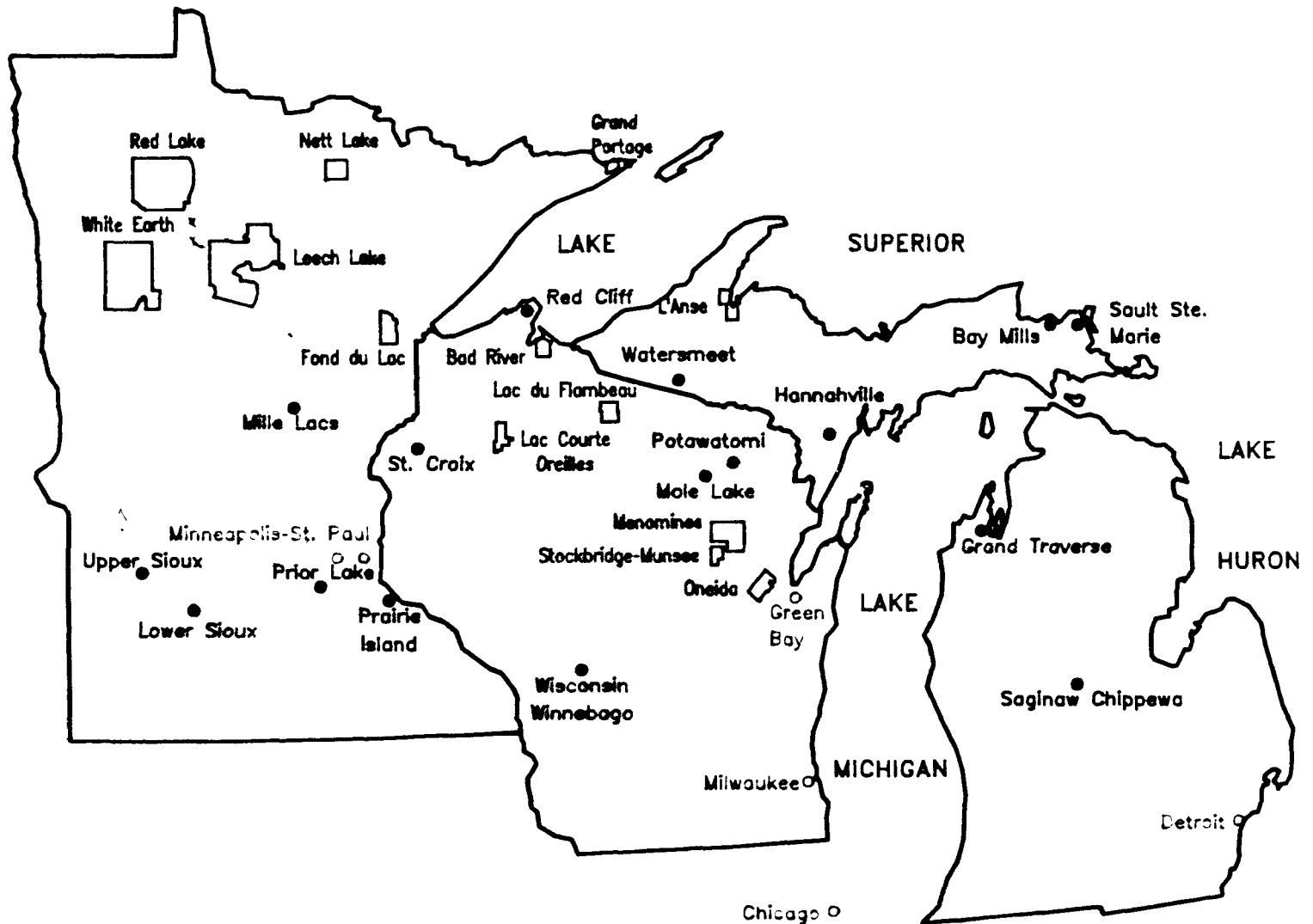
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Opportunities And Guidelines For States And Eligible Indian Tribes



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**DEPARTMENT OF HEALTH & HUMAN SERVICES
PUBLIC HEALTH SERVICE
INDIAN HEALTH SERVICE**

Acknowledgements:

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I. INTRODUCTION

This handbook has been developed by EPA's Office of Wetlands Protection (OWP) to highlight the potential of the State water quality certification process for protecting wetlands, and to provide information and guidance to the States.¹ Throughout this document, the term "State" includes those Indian Tribes which qualify for treatment as States under the federal Clean Water Act (CWA) Section 518(e).² We encourage Tribes who are interested in expanding their protection of wetlands and other waters under this new provision of the CWA to examine water quality certification as a readily available tool to begin their programs.

One of OWP's key mandates is to broaden EPA's wetlands protection efforts in areas which complement our authority under the Clean Water Act Section 404 regulatory program. Thus, we are exploring and working with other laws, regulations, and nonregulatory approaches to enhance their implementation to protect wetlands. In addition, the National Wetlands Policy Forum has recommended in its report issued in November 1988, that States "make more aggressive use of their certification authorities under Section 401 of the CWA, to protect their wetlands from chemical and other types of alterations."³

In light of these directives, we have examined the role of the Section 401 State water quality certification process and are working with States to improve its application to wetlands. This process offers the opportunity to fulfill many goals for wetland protection because:

- * **It is a cooperative federal/State program and it increases the role of States in decisions regarding the protection of natural resources;**
- * **It gives States extremely broad authority to review proposed activities in and/or affecting State waters (including wetlands) and, in effect, to deny or place conditions on federal permits or licenses that authorize such activities;**
- * **It is an existing program which can be vastly improved to protect wetlands without major legislative initiatives;**
- * **Its proper implementation for wetlands should integrate many State programs related to wetlands, water quality, and aquatic resource preservation and enhancement, to ensure consistency of activities with these State requirements. Examples of such programs include coastal zone management, floodplain management, and nonpoint source programs.**

The issues discussed in this handbook were identified through discussions with State 401 certification program personnel and through a workshop held in December 1987 with many of the States who actively apply 401 certification to wetlands. The handbook includes examples of how some States have successfully approached the issues discussed. Because the water quality certification process is continually evolving, we do not attempt to address all the issues here. This handbook is a first step towards clarifying how 401 certification applies to wetlands, and helping States use this tool more effectively.

EPA would like to work with the States to ensure that their authority under Section 401 is exercised in a manner that achieves the goals of the Clean Water Act and reflects the State role at the forefront in administering water quality programs. Clearly, the integrity of waters of the U.S. cannot be protected by an exclusive focus on wastewater effluents in open waters. While the federal Section 404 program addresses many discharges into wetlands, and other federal agencies have environmental review programs which benefit wetlands, these do not substitute for a State's responsibilities under Section 401. A State's authority under Section 401 includes consideration of a broad range of chemical, physical, and biological impacts. The State's responsibility includes acting upon the recognition that wetlands are critical components of healthy, functioning aquatic systems.

To help States implement the guidance provided in this handbook and to foster communication on 401 issues, you will find a list of State 401 certification contacts and federal EPA contacts in Appendix A. In order to keep this and other wetland contact lists current, EPA has asked the Council of State Governments to establish a computerized database of State wetland programs and contacts (See Appendix A for details.) EPA is also refining a list of Tribal contacts to foster communication with interested Tribes.

SUMMARY OF ACTIONS NEEDED

The following is a summary of the activities needed to make 401 certification a more effective tool to protect wetlands. States can undertake many of these activities right away, while also taking other actions which lay the groundwork for improving future 401 certification decisions. Tribes, who primarily are just beginning to develop wetlands programs, should consider these actions (along with developing water quality standards) as first steps to becoming more involved in wetlands regulatory efforts. The actions below are discussed throughout the handbook.

- * All states should begin by including wetlands in their definitions of state waters.
- * States should develop or modify their existing 401 certification and water quality standard regulations and guidelines to accomodate special wetland considerations.
- * States should make more effective use of their existing narrative water quality standards (including the antidegradation policy) to protect the integrity of wetlands.
- * States should initiate or improve upon existing inventories of their wetland resources.
- * States should designate uses for these wetlands based on wetland functions associated with each wetland type. Such estimated uses could be verified when needed for individual applications with an assessment tool such as the Wetlands Evaluation Technique, or Habitat Evaluation Procedure, or region-specific evaluation methods.
- * States should tap into the potential of the outstanding resource waters designation of the antidegradation policy for their wetlands.
- * States should incorporate 401 certification for wetlands into their water quality management planning process. This process can integrate wetland resource information with different water management programs affecting wetlands (including coastal zone management, nonpoint source and wastewater programs).

II. WHAT IS WATER QUALITY CERTIFICATION AND HOW DOES IT WORK?

States may grant or deny "certification" for a federally permitted or licensed activity that may result in a discharge to the waters of the United States, if it is the State where the discharge will originate. The decision to grant or deny certification is based on a State's determination from data submitted by an applicant (and any other information available to the State) whether the proposed activity will comply with the requirements of certain sections of the Clean Water Act enumerated in Section 401(a)(1). These requirements address effluent limitations for conventional and nonconventional pollutants, water quality standards, new source performance standards, and toxic pollutants (Sections 301, 302, 303, 306 and 307). Also included are requirements of State law or regulation more stringent than those sections or their federal implementing regulations.

States adopt surface water quality standards pursuant to Section 303 of the Clean Water Act and have broad authority to base those standards on the waters' use and value for "public water supplies, propagation of fish and wildlife, recreational purposes, and . . . other purposes."⁴ All permits must include effluent limitations at least as stringent as needed to maintain established beneficial uses and to attain the quality of water designated by States for their waters.⁵ Thus, the States' water quality standards are a critical concern of the 401 certification process.

If a State grants water quality certification to an applicant for a federal license or permit, it is in effect saying that the proposed activity will comply with State water quality standards (and the other CWA and State law provisions enumerated above). The State may thus deny certification because the applicant has not demonstrated that the project will comply with those requirements. Or it may place whatever limitations or conditions on the certification it determines are necessary to assure compliance with those provisions, and with any other "appropriate" requirements of State law.

If a State denies certification, the federal permitting or licensing agency is prohibited from issuing a permit or license. While the procedure varies from State to State, a State's decision to grant or deny certification is ordinarily subject to an administrative appeal, with review in the State courts designated for appeals of agency decisions. Court review is typically limited to the question of whether the State agency's decision is supported by the record and is not arbitrary or capricious. The courts generally presume regularity in agency procedures and defer to agency expertise in their review.⁶

States may also waive water quality certification, either affirmatively or involuntarily. Under Section 401(a)(1), if the State fails to act on a certification request

"within a reasonable time (which shall not exceed one year)" after the receipt of an application, it forfeits its authority to grant conditionally or to deny certification.

The most important regulatory tools for the implementation of 401 certification are the States' water quality standards regulations and their 401 certification implementing regulations and guidelines. While all of the States have some form of water quality standards, not all States have standards which can be easily applied to wetlands. Most Tribes do not yet have water quality standards, and developing them would be a first step prior to having the authority to conduct water quality certification. Also, many States have not adopted regulations implementing their authority to grant, deny and condition water quality certification. The remainder of this handbook discusses specific approaches, and elements of water quality standards and 401 certification regulations that OWP views as effective to implement the States' water quality certification authority, both generally, and specifically with regard to wetlands.

III. 401 CERTIFICATION CAN BE A POWERFUL TOOL TO PROTECT WETLANDS

In States without a wetlands regulatory program, the water quality certification process may be the only way in which a State can exert any direct control over projects in or affecting wetlands. It is thus critical for these States to develop a program that fully includes wetlands in their water quality certification process.

But even in States which have their own wetlands regulatory programs, the water quality certification process can be an extremely valuable tool to protect wetlands. First, most State wetland regulatory laws are more limited in the wetlands that are subject to regulation than is the Clean Water Act. The Clean Water Act covers all interstate wetlands; wetlands adjacent to other regulated waters; and all other wetlands, the use, degradation or destruction of which could affect interstate or foreign commerce.⁷ This definition is extremely broad and one would be hard pressed to find a wetland for which it could be shown that its use or destruction clearly would not affect interstate commerce. Federal jurisdiction extends beyond that of States which regulate only coastal and/or shoreline wetlands, for instance. And in States that regulate inland wetlands, often size limitations prevent States from regulating wetlands that are subject to federal jurisdiction.⁸

Even if State jurisdiction is as encompassing or more so than federal jurisdiction, however, water quality certification may still be a valuable and essential wetlands protection device. In the State of Massachusetts, for instance, a 401 certification is not simply "rubber stamped" on the permitting decisions made pursuant to the Massachusetts Wetlands Protection Act. The State has denied certification to proposed projects requiring a federal permit even though the State wetlands permitting authority

(in Massachusetts, permits are granted by local "conservation commissions") has granted authorization for a project.

There may be a number of reasons that a proposed activity may receive authorization under a State wetland regulatory program, but fail to pass muster under a 401 certification review. The most commonly cited reason, however, is that water quality personnel have a specialized understanding of the requirements and implementation of the State's water quality standards and the ways in which certain activities may interfere with their attainment.

It is important, however, to keep in mind the limitations of 401 certification when considering a comprehensive approach to protecting your wetland resources. The primary limitation is that if 401 certification is the only tool a State has to protect wetlands, it cannot place limits on activities which do not require a federal license or permit. Some activities such as drainage or groundwater pumping, can have severe impacts on the viability of wetlands, but may not require a permit or license. Ideally, 401 certification should be combined with other programs in the State offering wetlands protection opportunities (such as coastal management and floodplain management). For example, Alaska has integrated its 401 certification and coastal management consistency review processes so that the provisions of each program augment the other to provide more comprehensive protection. This approach not only strengthens protection, it reduces duplication of State efforts and coordinates permit review for applicants.⁹

IV. THE ROLE OF WATER QUALITY STANDARDS IN THE CERTIFICATION PROCESS

A. Wetlands Should be Specifically Designated as Surface Waters of the States

In order to bring wetlands fully into the State water quality certification process, a first step is to include the term "wetlands" in the State water quality standards' definition of surface waters. EPA will be working with all States through the triennial review process of State standards to ensure that their definitions are at least as comprehensive as the federal definitions for waters (see Appendix B for federal definitions of "Waters of the U.S." and the term "wetlands").

It may seem minor, but from every standpoint, it is important to have wetlands specifically designated as surface waters in State water quality standards. First, it precludes any arguments that somehow wetlands are not covered by water quality standards. Second, it predisposes decision makers (from 401 certification program managers, to the head of the agency or a water quality board, all the way to the judges

on the courts that may review these decisions) to consider the importance of wetlands as part of the aquatic ecosystem. Third, it makes it clear that wetlands are to be treated as waters in and of themselves for purposes of compliance with water quality standards and not just as they relate to other surface waters.

The third point is critical and bears further explanation. When States include wetlands in the definition of surface waters covered by their water quality standards, they clarify that activities in or affecting wetlands are subject to the same analysis in the certification decision as are projects affecting lakes, rivers, or streams. This is not to say that a wetland project's effects on adjacent or downstream waters are not also part of the water quality certification analysis. Rather, it is to say that wetlands, either adjacent to or isolated from other waters, are waterbodies in and of themselves and an applicant for water quality certification must show that a proposed project will not violate water quality standards in those wetlands, as well as in other waters.

The States currently have a variety of definitions of "waters of the State" in the legislation that enables water quality standards (e.g., multi-media environmental protection acts, water quality acts, and the like). Only three States currently have the term "wetlands" explicitly listed as one of the types of waters in this enabling legislation (Nebraska, Rhode Island, West Virginia). These States need only to repeat that definition in their water quality standards and their 401 certification implementing regulations.

While most States do not have the term "wetlands" in their enabling legislation, many use the term "marshes" in a list of different types of waters to illustrate "waters of the State" in their enabling legislation. Kentucky, for example, defines waters of the State as:

*. . . any and all rivers, streams, creeks, lakes, ponds, impounding reservoirs, springs, wells, marshes, and all other bodies of surface or underground water, natural or artificial, situated wholly or partly within or bordering upon the Commonwealth or within its jurisdiction.*¹⁰

When used in this way, the term "marshes" is typically understood to be generic in nature rather than being descriptive of a type of wetland, and can therefore be considered as the equivalent of the term "wetlands". In these States, however, in order to ensure that the term "marshes" is interpreted as the equivalent of wetlands, the best approach is to include the term "wetlands" in the definition of surface waters used in the State's water quality standards and in the 401 certification implementing regulations.

There is another group of States that has neither the term "wetlands" or "marshes" in the enabling legislation's definition of waters of the State. These definitions typically contain language that describes in some generic manner, however,

all waters that exist in the State. They may not specifically designate any particular type of water body, as, for instance, Tennessee's Water Quality Control Act:

*. . . any and all water, public or private, on or beneath the surface of the ground, which [is] contained within, flow[s] through, or border[s] upon Tennessee or any portion thereof*¹¹

Or they may specify some types of surface waters and then generically include all others with a clause such as "and all other water bodies" or "without limitation", as does Massachusetts:

*All waters within the jurisdiction of the Commonwealth, including, without limitation, rivers, streams, lakes, ponds, springs, impoundments, estuaries, and coastal waters and groundwaters.*¹²

In these States, as in the States with "marshes" in the enabling legislation's definition of waters, regulators should clarify that wetlands are part of the surface waters of the State subject to the States' water quality standards by including that term, and any others they deem appropriate, in a definition of surface waters in their water quality standards and in their 401 certification implementing regulations.

Both Kentucky and Ohio, for instance, which have the term "marshes," but not the term "wetlands" in their enabling legislation, have included the term "wetlands" in their surface water quality standards' definition of waters.¹³ Massachusetts, which does not have the term "wetlands" or "marshes" in its enabling legislation, has put the term "wetlands" into its water quality standards also.¹⁴ Additionally, Ohio's 401 certification implementing regulations include the term "wetlands" in the definition of waters covered by those regulations and specifically address activities affecting the integrity of wetlands.¹⁵

B. General Requirements of EPA's Water Quality Standards Regulations.¹⁶

When the States review their water quality standards for applicability to projects affecting wetlands, it is important to have in mind the basic concepts and requirements of water quality standards generally. Congress has given the States broad authority to adopt water quality standards, directing only that the States designate water uses that protect the public health and welfare and that take into account use of State waters for drinking water, the propagation of fish and wildlife, recreation, and agricultural, industrial and other purposes.

EPA's water quality standards regulations require States to adopt water quality standards which have three basic components: use designations, criteria to protect those uses, and an antidegradation policy.

EPA directs that, where attainable, designated uses must include, at a minimum, uses necessary to protect the goals of the CWA for the protection and propagation of fish, shellfish, and wildlife and provide for recreation in and on the waters. This baseline is commonly referred to as the "fishable/swimmable" designation. If the State does not designate these minimum uses, or wishes to remove such a designated use, it must justify it through a use attainability analysis based on at least one of six factors.¹⁷ In no event, however, may a beneficial existing use (any use which is actually attained in the water body on or after November 28, 1975) be removed from a water body or segment.

Criteria, either pollutant-specific numerical criteria or narrative criteria, must protect the designated and existing uses. Many of the existing numeric criteria are not specifically adapted to the characteristics of wetlands (see last section of handbook for steps in this direction). However, almost all States have some form of the narrative standards (commonly known as the "free froms") which say that all waters shall be free from substances that: settle to form objectionable deposits; float as debris, scum, oil or other matter to form nuisances; produce objectionable color, odor, taste, or turbidity; injure, or are toxic, or produce adverse physiological responses in humans, animals, or plants; or produce undesirable or nuisance aquatic life. States have also used other narrative criteria to protect wetland quality. The use of criteria to protect wetlands is discussed in the following section.

In addition, EPA also requires that all States adopt an antidegradation policy. Several States have used their antidegradation policy effectively to protect the quality of their wetland resources. At a minimum, a State's antidegradation policy must be consistent with the following provisions:

- (1) Existing uses and the level of water quality necessary to protect existing uses in all segments of a water body must be maintained;**
- (2) if the quality of the water is higher than that necessary to support propagation of fish, shellfish, and wildlife, and recreation in and on the water, that quality shall be maintained and protected, unless the State finds that lowering the water quality is justified by overriding economic or social needs determined after full public involvement. In no event, however, may water quality fall below that necessary to protect the existing beneficial uses;**
- (3) if the waters have been designated as outstanding resource waters (ORWs) no degradation (except temporary) of water quality is allowed.**

In the case of wetland fills, however, EPA allows a slightly different interpretation of the antidegradation policy.¹⁸ Because on the federal level, the Congress has anticipated the issuance of at least some permits by virtue of Section 404, it is EPA's policy that, except in the case of ORWs, the "existing use" requirements of the antidegradation policy are met if the wetland fill does not cause or contribute to "significant degradation" of the aquatic environment as defined by Section 230.10(c) of the Section 404(b)(1) Guidelines.¹⁹

These Guidelines lay a substantial foundation for protecting wetlands and other special aquatic sites from degradation or destruction. The purpose section of the Guidelines states that:

". . . from a national perspective, the degradation or destruction of special aquatic sites, such as filling operations in wetlands, is considered to be among the most severe environmental impacts covered by these Guidelines. The guiding principal should be that degradation or destruction of special sites may represent an irreversible loss of valuable aquatic resources."²⁰

The Guidelines also state that the following effects contribute to significant degradation, either individually or collectively:

". . . significant adverse effects on (1) human health or welfare, including effects on municipal water supplies, plankton, fish, shellfish, wildlife, and special aquatic sites (e.g., wetlands); (2) on the life stages of aquatic life and other wildlife dependent on aquatic ecosystems, including the transfer, concentration or spread of pollutants or their byproducts beyond the site through biological, physical, or chemical process; (3) on ecosystem diversity, productivity and stability, including loss of fish and wildlife habitat or loss of the capacity of a wetland to assimilate nutrients, purify water or reduce wave energy; or (4) on recreational, aesthetic, and economic values."²¹

The Guidelines may be used by the States to determine "significant degradation" for wetland fills. Of course, the States are free to adopt stricter requirements for wetland fills in their own antidegradation policies, just as they may adopt more stringent requirements than federal law requires for their water quality standards in general.

C. Applying Water Quality Standards Regulations to Wetlands - What States are Doing Now

Some States have taken the lead in using 401 certification as a wetlands protection tool to protect them for their water quality and other irreplaceable functions, such as storage places for flood waters, erosion control, foodchain support and habitat

for a wide variety of plants and animals. These States have taken several different approaches to wetlands protection in their water quality certification process.

1. Using Narrative Criteria

States have applied a variety of narrative criteria to projects in or affecting wetlands in the 401 certification determination. For example, Maryland's water quality standards contain a narrative directive, which the agency relied upon to deny certification for a non-tidal wetland fill. The standard provides that "[a]ll waters of this State shall be protected for the basic uses of water contact recreation, fish, other aquatic life, wildlife, and water supply."²² In its denial, Maryland stated:

Storm waters are relieved of much of their sediment loads via overbanking into the adjacent wetland and a resultant decrease in nutrient and sediment loading to downstream receiving waters is occurring. To permit the fill of this area would eliminate these benefits and in the future, would leave the waterway susceptible to adverse increased volumes of storm waters and their associated pollutants. It is our determination that [a specified waterway] . . . requires protection of these wetland areas to assure that the waters of this State are protected for the basic uses of fish, other aquatic life, wildlife and water supply.

Because wetlands vary tremendously in background levels of certain parameters measured by the traditional numerical/chemical criteria applied to surface waters, some States have relied on "natural water quality" criteria to protect wetlands in the 401 certification process. Minnesota, for instance, has taken this approach in denying certification for a flood control project because of the State's "primary concern . . . that the project would likely change Little Diann Lake from an acid bog to a fresh-circumneutral water chemistry type of wetland." The agency was concerned that "introduction of lake water into the closed acid system of Little Diann Lake would completely destroy the character of this natural resource." It relied on a provision of its water quality standards allowing the State to limit the addition of pollutants according to background levels instead of to the levels specified by criteria for that class of waters generally. The denial letter pointed out that this rule "States that the natural background level may be used instead of the specified water quality standards, where reasonable justification exists for preserving the quality found in the State of nature." According to the denial letter, because of the clear potential for impacts to the bog, the State was invoking that particular provision.²³

Tennessee has relied on broad prohibitory language in its water quality standards to deny water quality certification for wetland fill projects and has been upheld in court. Hollis v. Tennessee Water Quality Control Board²⁴ was brought by a 401 certification

applicant who proposed to place fill along the southeastern shoreline of a natural swamp lake. The court upheld the denial of 401 certification, explaining:

Reelfoot Lake is classified for fish and aquatic life, recreation, and livestock watering and wildlife uses. The [Water Quality] Board has established various standards for the waters in each classification. Among other things, these standards pertain to dissolved oxygen, pH, temperature, toxic substances, and other pollutants. The Permit Hearing Panel found the petitioner's activity will violate the "other pollutants" standard in each classification. Collectively, these ["other pollutants"] standards provide that other pollutants shall not be added to the water that will be detrimental to fish or aquatic life, to recreation, and to livestock watering and wildlife.

The court found that while there was no evidence that the project in and of itself would "kill" Reelfoot Lake, there was evidence that the shoreline was important to recreation because tourists visit Reelfoot to view its natural beauty and the lacustrine wetlands function as a spawning ground for fish and produce food for both fish and wildlife. It found that although the evidence in the record did not quantify the damage to fish and aquatic life, recreation, and wildlife that would result from the proposed fill, the opinion of the State's expert that the activity would be detrimental to these uses was sufficient to uphold the denial of certification.

Kentucky has also relied on narrative criteria. It denied an application to place spoil from underground mine construction in a wetland area because wetlands are protected from pollution as "Waters of the Commonwealth" and because placing spoil or any fill material (pollutants under KRS 224.005(28)) in a wetland specifically violated at least two water quality criteria. One of Kentucky's criteria, applicable to all surface waters, provides that the waters "*shall not be aesthetically or otherwise degraded by substances that . . . [i]njure, [are] toxic to or produce adverse physiological or behavioral responses in humans, animals, fish and other aquatic life.*"

The other criterion, applicable to warm water aquatic habitat, provides that "*[f]low shall not be altered to a degree which will adversely affect the aquatic community.*"²⁵ This second criterion which addresses hydrological changes is a particularly important but often overlooked component to include in water quality standards to help maintain wetland quality. Changes in flow can severely alter the plant and animal species composition of a wetland, and destroy the entire wetland system if the change is great enough.

Ohio has adopted 401 certification regulations applicable to wetlands (and other waters) that, together with internal review guidelines, result in an approach to the 401 certification decision similar to that of the 404(b)(1) Guidelines. Its 401 certification regulations first direct that no certification may be issued unless the applicant has

demonstrated that activities permitted by Section 404 or by Section 10 of the Rivers and Harbors Act (RHA) will not:

(1) prevent or interfere with the attainment or maintenance of applicable water quality standards;

(2) result in a violation of Sections 301, 302, 303, 306 or 307 of the CWA; additionally, the agency may deny a request notwithstanding the applicant's demonstration of the above if it concludes that the activity "will result in adverse long or short term impacts on water quality."²⁶

Ohio has placed all of its wetlands as a class in the category of "State resource waters." For these waters, Ohio has proposed amendments to its standards to say that "[p]resent ambient water quality and uses shall be maintained and protected without exception."²⁷ The proposed standards also require that point source discharges to State resource waters be regulated according to Ohio's biological criteria for aquatic life.

However, Ohio has not yet developed biological indices specifically for wetlands. Thus, for projects affecting wetlands, it bases its certification decisions on internal review guidelines that are similar to the federal Section 404(b)(1) Guidelines. Ohio's guidelines are structured by type of activity. For instance, for fills, their requirements are as follows:

(a) if the project is not water dependent, certification is denied;

(b) if the project is water dependent, certification is denied if there is a viable alternative (e.g., available upland nearby is viable alternative);

(c) if no viable alternatives exist and impacts to wetland cannot be made acceptable through conditions on certification (e.g., fish movement criteria, creation of floodways to bypass oxbows, flow through criteria), certification is denied.

Ohio's internal review guidelines also call for (1) an historical overview and ecological evaluation of the site (including biota inventory and existing bioaccumulation studies); (2) a sediment physical characterization (to predict contaminant levels) and (3) a sediment analysis.²⁸

Using these guidelines, Ohio frequently conditions or denies certification for projects that eliminate wetland uses. For instance, Ohio has issued a proposed denial of an application to fill a three acre wetland area adjacent to Lake Erie for a

recreational and picnic area for a lakefront marina based on its classification of wetlands as "State resource waters:"

Wetlands serve a vital ecological function including food chain production, provision of spawning, nursery and resting habitats for various aquatic species, natural filtration of surface water runoff, ground water recharge, and erosion and flood abatement. The O.A.C. Section 3745-1-05(C) includes wetlands [in the] State Resource Waters category and allows no further water quality degradation which would interfere with or become injurious to the existing uses. The addition of fill material to the wetland would cause severe adverse effects to the wetland. This fill would eliminate valuable wetland habitat, thereby degrading the existing use.

The justification for this denial, according to Ohio program managers, was not only that the project would interfere with existing uses, but in addition, the project was not water dependent as called for in Ohio's internal guidelines. Ohio 401 certification program personnel note that these review guidelines present the general approach to certification, but with regard to projects that are determined to be of public necessity, this approach may give way to other public interest concerns. For example, a highway is not water dependent per se; if, however, safety and financial considerations point to a certain route that necessitates filling wetlands, the agency may allow it. In that event, however, mitigation by wetland creation and/or restoration would be sought by the agency as a condition of certification.

2. Highest Tier of Protection: Wetlands as Outstanding Resource Waters

One extremely promising approach taken by some of the States has been to designate wetlands as outstanding resource waters (ORW), in which water quality must be maintained and protected according to EPA's regulations on antidegradation (i.e., no degradation for any purposes is allowed, except for short term changes which have no long term consequences).²⁹ This approach provides wetlands with significant protection if the States' antidegradation policies are at least as protective as that of EPA. EPA designed this classification not only for the highest quality waters, but also for water bodies which are "important, unique, or sensitive ecologically, but whose water quality as measured by the traditional parameters (dissolved oxygen, pH, etc.) may not be particularly high or whose character cannot be adequately described by these parameters."³⁰ This description is particularly apt for many wetland systems.

The designation of wetlands as outstanding resource waters has occurred in different ways in different States. Minnesota, for instance, has designated some of its rare, calcareous fens as ORWs and intends to deny fills in these fens.

Ohio has issued for comment, proposed revised water quality standards that include a newly created "outstanding State resource waters" category. Ohio intends to prohibit all point source discharges to these waters. Of fourteen specific water bodies proposed to be included in this category by the Ohio EPA at this time, ten are wetlands: four fens; three bogs; and three marshes.

Because the designation of wetlands as ORWs is such an appropriate classification for many wetland systems, it would behoove the States to adopt regulations which maximize the ability of State agencies and citizens to have wetlands and other waters placed in this category. The State of Kentucky has set out procedures for the designation of these waters in its water quality standards. Certain categories of waters automatically included as ORWs are: waters designated under the Kentucky Wild Rivers Act or the Federal Wild and Scenic Rivers Act; waters within a formally dedicated nature preserve or published in the registry of natural areas and concurred upon by the cabinet; and waters that support federally recognized endangered or threatened species. In addition, Kentucky's water quality standards include a provision allowing anyone to propose waters for the ORW classification.³¹

Minnesota has a section in its water quality standards that could be called an "emergency" provision for the designation of outstanding resource waters. Normally it is necessary under Minnesota's water quality standards for the agency to provide an opportunity for a hearing before identifying and establishing outstanding resource waters and before prohibiting or restricting any discharges to those waters. The "emergency" provision allows the agency to prohibit new or expanded discharges for unlisted waters *"to the extent . . . necessary to preserve the existing high quality, or to preserve the wilderness, scientific, recreational, or other special characteristics that make the water an outstanding resource value water."*³² This provision allows the agency to protect the waterbody while completing the listing process which could take several years.

Moreover, some States have improved on the formulation of the ORW classification by spelling out the protection provided by that designation more specifically than do EPA's regulations. For instance, Massachusetts' water quality standards state that for "National Resource Waters:"

*Waters so designated may not be degraded and are not subject to a variance procedure. New discharges of pollutants to such waters are prohibited. Existing discharges shall be eliminated unless the discharger is able to demonstrate that: (a) Alternative means of disposal are not reasonably available or feasible; and (b) The discharge will not affect the quality of the water as a national resource.*³³

This provision explicitly outlines how the State intends to maintain and protect the water quality of ORWs. Another provision which Minnesota uses to control discharges to waters that flow into ORWs for their effect on ORWs is that:

The agency shall require new or expanded discharges that flow into outstanding resource value waters [to] be controlled so as to assure no deterioration in the quality of the downstream outstanding resource value water.³⁴

V. USING 401 CERTIFICATION

A. The Permits/Licenses Covered and the Scope of Review

The language of Section 401(a)(1) is written very broadly with respect to the activities it covers. "[A]ny activity, including, but not limited to, the construction or operation of facilities, which may result in any discharge" requires water quality certification.

When the Congress first enacted the water quality certification provision in 1970, it spoke of the "wide variety of licenses and permits . . . issued by various Federal agencies," which "involve activities or operations potentially affecting water quality."³⁵ The purpose of the water quality certification requirement, the Congress said, was to ensure that no license or permit would be issued "for an activity that through inadequate planning or otherwise could in fact become a source of pollution."³⁶

1. Federal Permits/Licenses Subject to Certification

The first consideration is which federal permits or licenses are subject to 401 certification. OWP has identified five federal permits and/or licenses which authorize activities which may result in a discharge to the waters. **These are: permits for point source discharges under Section 402 and discharges of dredged and fill material under Section 404 of the Clean Water Act; permits for activities in navigable waters which may affect navigation under Sections 9 and 10 of the Rivers and Harbors Act (RHA); and licenses required for hydroelectric projects issued under the Federal Power Act.**

There are likely other federal permits and licenses, such as permits for activities on public lands, and Nuclear Regulatory Commission licenses, which may result in a discharge and thus require 401 certification. Each State should work with EPA and the federal agencies active in its State to determine whether 401 certification is in fact applicable.

Indeed, it is not always clear when 401 certification should apply. For instance, there remains some confusion under Sections 9 and 10 of RHA concerning which projects may involve or result in a discharge, and thus require State certification. In many cases there is an overlap between Section 404 CWA and Sections 9 and 10 RHA. Where these permits overlap, 401 certification always applies. Under the Section 404 regulations, the question of whether dredging involves a discharge and is therefore subject to Section 404, depends on whether there is more than "de minimis, incidental soil movement occurring during normal dredging operations".³⁷

Where only a Section 9 or 10 permit is required, 401 certification would apply if the activity may lead to a discharge. For example, in the case of pilings, which the Corps sometimes considers subject to Section 10 only, a 401 certification would be required for the Section 10 permit if structures on top of the pilings may result in a discharge.

States should notify the regional office of federal permitting or licensing agencies of their authority to review these permits and licenses (e.g., the Corps of Engineers for Section 404 in nonauthorized States, and Sections 9 and 10 of the RHA; EPA for Section 402 permits in nonauthorized States; and the Federal Energy Regulatory Commission (FERC) for hydropower licenses). In their 401 certification implementing regulations, States should also give notice to applicants for these particular federal permits and licenses, and for all other permits and licenses that may result in a discharge to waters of the State, of their obligation to obtain 401 certification from the State.

West Virginia's 401 certification implementing regulations, for instance, state that:

1.1. Scope. . . . Section 401 of the Clean Water Act requires that any applicant for a federal license or permit to conduct an activity which will or may discharge into waters of the United States (as defined in the Clean Water Act) must present the federal authority with a certification from the appropriate State agency. Federal permits and licenses issued by the federal government requiring certification include permits issued by the United States Army Corps of Engineers under Section 404 of the Clean Water Act, 33 U.S.C. 1344 and licenses issued by the Federal Energy Regulatory Commission under the Federal Power Act, 16 U.S.C. 1791 et seq.³⁸

Because West Virginia has been authorized to administer the NPDES permitting program under Section 402 of the Clean Water Act, applicants for NPDES permits do not have to apply for water quality certification separately. In addition, West Virginia has not specifically designated Rivers and Harbors Act permits in the above regulation. However, because the regulation States that such permits or licenses include Section

404 and FERC licenses, those and all other permits not specifically designated but which may result in a discharge to the waters would be covered by the regulation's language. The better approach would be to enumerate all such licenses and permits that are known to the State and include a phrase for all others generically.

2. Scope of Review Under Section 401

An additional issue is the scope of the States' review under Section 401. Congress intended for the States to use the water quality certification process to ensure that no federal license or permits would be issued that would violate State standards or become a source of pollution in the future. Also, because the States' certification of a construction permit or license also operates as certification for an operating permit (except for in certain instances specified in Section 401(a)(3)), it is imperative for a State review to consider all potential water quality impacts of the project, both direct and indirect, over the life of the project.

A second component of the scope of the review is when an activity requiring 401 certification in one State (i.e. the State in which the discharge originates) will have an impact on the water quality of another State.³⁹ The statute provides that after receiving notice of application from a federal permitting or licensing agency, EPA will notify any States whose water quality may be affected. Such States have the right to submit their objections and request a hearing. EPA may also submit its evaluation and recommendations. If the use of conditions cannot insure compliance with the affected State's water quality requirements, the federal permitting or licensing agency shall not issue such permit or license.

The following example of 401 certification denial by the Pennsylvania Department of Environmental Resources (DER) for a proposed FERC hydroelectric project illustrates the breadth of the scope of review under Section 401 (see Appendix C for full description of project and impacts addressed). The City of Harrisburg, Pennsylvania proposed to construct a hydroelectric power project on the Susquehanna River. The Pennsylvania DER considered a full range of potential impacts on the aquatic system in its review. The impacts included those on State waters located at the dam site, as well as those downstream and upstream from the site. The impacts considered were not just from the discharge initiating the certification review, but water quality impacts from the entire project. Thus, potential impacts such as flooding, changes in dissolved oxygen, loss of wetlands, and changes in groundwater, both from construction and future operation of the project, were all considered in the State's decision.

The concerns expressed by the Pennsylvania Department of Environmental Resources are not necessarily all those that a State should consider in a dam

certification review; each project will have its own specific impacts and potential water quality problems. The point of the illustration is to show that **all of the potential effects of a proposed activity on water quality -- direct and indirect, short and long term, upstream and downstream, construction and operation -- should be part of a State's certification review.**

B. Conditioning 401 Certifications for Wetland Protection

In 401(d), the Congress has given the States the authority to place any conditions on a water quality certification that are necessary to assure that the applicant will comply with effluent limitations, water quality standards, standards of performance or pretreatment standards; with any State law provisions or regulations more stringent than those sections; and with "any other appropriate requirement of State law."

The legislative history of the subsection indicates that the Congress meant for the States to impose whatever conditions on the certification are necessary to ensure that an applicant complies with all State requirements that are related to water quality concerns.

1. What are Appropriate Conditions?

There are any number of possible conditions that could be placed on a certification that have as their purpose preventing water quality deterioration.

By way of example, the State of Maryland issued a certification with conditions for placement of fill to construct a 35-foot earthen dam located 200 feet downstream of an existing dam. Maryland used some general conditions applicable to many of the proposed projects it considers, along with specific conditions tailored to the proposed project. Examples of the conditions placed on this particular certification include:

The applicant shall obtain and certify compliance with a grading and sediment control plan which has been approved by the [county] Soil Conservation District. The approved plan shall be available at the project site during all phases of construction.

Stormwater runoff from impervious surfaces shall be controlled to prevent the washing of debris into the waterway. The natural vegetation shall be maintained and restored when disturbed or eroded. Stormwater drainage facilities shall be designed, implemented, operated, and maintained in accordance with the requirements of the applicable approving authority.

The applicant is required to provide a mixing tower release structure to achieve in-stream compliance with Class III trout temperature (20[degrees] C) and dissolved oxygen (5.0 mg/liter) standards prior to the Piney Run/Church Creek confluence. The design of this structure shall be approved by the Maryland Department of the Environment (MDE).

The applicant is required to provide a watershed management plan to minimize pollutant loadings into the reservoir. This plan shall be reviewed and approved by MDE prior to operation of the new dam facility. In conjunction with this plan's development any sources of pollutant loading identified during field surveys shall be eliminated or minimized to the extent possible given available technology.

The applicant is required to provide to MDE an operating and maintenance plan for the dam assuring minimum downstream flows in accordance with the requirements of the DNR and assuring removal of accumulated sediments with subsequent approved disposal of the materials removed.

The applicant is to provide mitigation for the wetlands lost as a result of the construction of this project and its subsequent operation. Wetland recreation should be located in the newly created headwaters areas to: a) assure adequate filtration of runoff prior to its entry into the reservoir and b) replace the aquatic resource being lost on an acre for acre basis.

See Appendix D for the full list of conditions placed on this certification. While few of these conditions are based directly on traditional water quality standards, all are valid and relate to the maintenance of water quality or the designated use of the waters in some way. Some of the conditions are clearly requirements of State or local law related to water quality other than those promulgated pursuant to the CWA sections enumerated in Section 401(a)(1). Other conditions were designed to minimize the project's adverse effects on water quality over the life of the project.

In addition, Appendix D contains a list of conditions which West Virginia and Alaska placed on the certification of some Section 404 nationwide permits. Many of the West Virginia conditions are typical of ones it uses on individual proposals as well. For any particular project, West Virginia will include more specific conditions designed to address the potential adverse effects of the project in addition to those enumerated in Appendix D. The conditions from Alaska are used on a nationwide permit (#26) regarding isolated waters and waters above headwaters. These conditions are discussed in Section V. C(1).

2. The Role of Mitigation in Conditioning Certification

Many States are trying to determine the role that mitigation should play in 401 certification decisions. We cannot answer this question definitively for each State, but offer as a guide EPA's general framework for mitigation under the Section 404(b)(1) Guidelines used to evaluate applications for Section 404 permits. In assuring compliance of a project with the Guidelines, **EPA's approach is to first, consider avoidance of adverse impacts, next, determine ways to minimize the impacts, and finally, require appropriate and practicable compensation for unavoidable impacts.**

The Guidelines provide for avoiding adverse impacts by selecting the least environmentally damaging practicable alternative. In addition, wetlands are "special aquatic sites." For such sites, if the proposed activity is not "water dependent," practicable alternatives with less adverse environmental impacts are presumed to be available unless the applicant clearly demonstrates otherwise.⁴⁰

The Guidelines also require an applicant to take "appropriate and practicable" steps to minimize the impacts of the least environmentally damaging alternative selected.⁴¹ Examples in the Guidelines for minimizing impacts through project modifications and best management practices are provided in Appendix E.

After these two steps are complete, appropriate compensation is required for the remaining unavoidable adverse impacts. Compensation would consist of restoration of previously altered wetlands or creation of wetlands from upland sites. In most cases, compensation on or adjacent to the project site is preferred over off-site locations. The restoration or creation should be functionally equivalent to the values which are lost. Finally, compensating with the same type of wetland lost is preferred to using another wetland type.

The States may choose to adopt mitigation policies which require additional replacement to help account for the uncertainty in the science of wetland creation and restoration. What is important from EPA's perspective is that mitigation not be used as a trade-off for avoidable losses of wetlands, and that mitigation compensate, to the fullest extent possible, for the functional values provided to the local ecosystem by the wetlands unavoidably lost by the project.

3. The Role of Other State Laws

Another question that has been asked is what State law or other requirements are appropriately used to condition a 401 certification. The legislative history of Section 401(d) indicates that Congress meant for the States to condition certifications on compliance with any State and local law requirements related to water quality

preservation. The courts that have touched on the issue have also indicated that conditions that relate in any way to water quality maintenance are appropriate. Each State will have to make these determinations for itself, of course; there are any number of State and local programs that have components related to water quality preservation and enhancement.

One issue that has arisen in two court cases is whether a State may use State law requirements, other than those that are more stringent than the provisions of Sections 301, 302, 303, 306 and 307 of the CWA(401(a)(1)), to deny water quality certification. An Oregon State court has ruled that a State may, and indeed must, include conditions on certifications reflecting State law requirements "to the extent that they have any relationship to water quality." "Only to the extent that [a State law requirement] has absolutely no relationship to water quality," the court said, "would it not be an 'other appropriate requirement of State law.'"⁴² State agencies must act in accord with State law, of course, and thus the decision to grant certification carries with it the obligation to condition certification to ensure compliance with such State requirements.

This State court decision struck down a State agency's denial of certification because it was based on the applicant's failure to certify compliance with a county's comprehensive plan and land use ordinances. The court held that such "other appropriate requirement[s] of State law" could not be the basis for denying certification. However, the court held that the agency should determine which of the provisions of the land use ordinances had any relation to the maintenance and preservation of water quality. Any such provisions, the court said, could and should be the basis for conditions placed on a certification.

Another State court, however, this one in West Virginia, has upheld the State's denial of certification on the basis of State law requirements unrelated to the implementation of the CWA provisions enumerated in Section 401(a)(1).⁴³ The court simply issued an order upholding the State's denial, however, and did not write an opinion on the subject. The questions raised by these two opinions are thorny. If States may not deny certification based on State law requirements other than those implementing the CWA, yet want to address related requirements of State law, they must walk a thin line between their State requirements and the limitations of their certification authority under federal law.

One way to avoid these difficulties and to ensure that 401 certification may properly be used to deny certification where the State has determined that the activity cannot be conditioned in such a way as to ensure compliance with State water quality related requirements, is to adopt water quality standards that include all State provisions related to water quality preservation. Congress has given the States great latitude to adopt water quality standards that take into consideration the waters' use for

such things as "the propagation of fish and wildlife, recreational purposes, and . . . other purposes."⁴⁴ Because of the broad authority granted by the Congress to the States to adopt water quality standards pursuant to Section 303 of the CWA, and because compliance with Section 303 is clearly one of the bases on which a State can deny certification, the States can avoid the difficulty of the deny/condition dilemma by adopting water standards that include all the water quality related considerations it wishes to include in the 401 certification review.

For example, the State of Washington has included State water right permit flow requirements in its conditions for certification of a dam project. This is one means of helping to ensure that hydrological changes do not adversely affect the quality of a waterbody. However, a more direct approach is to include a narrative criterion in the State's water quality standards that requires maintenance of base flow necessary to protect the wetland's (or other waterbody's) living resources. The State of Kentucky has such a criterion in its water quality standards (see previous section IV. D(1) on "Using Narrative Criteria"). Placing the provision directly in the State standards might better serve the State if a certification is challenged because the requirement would be an explicit consideration of 401 certification.

C. Special Considerations for Review of Section 404 Permits: Nationwide and After-the-Fact Permits

1. Nationwide Permits.

Pursuant to Section 404(e) of the CWA, the Corps may issue general permits, after providing notice and an opportunity for a hearing, on a State, regional or nationwide basis for any category of activities involving discharges of dredged or fill material, where such activities are similar in nature and will cause only minimal adverse environmental effects both individually and cumulatively. These permits may remain in effect for 5 years, after which they must be reissued with notice and an opportunity for a hearing. If the activities authorized by general permits may result in a discharge, the permits are subject to the State water quality certification requirement when they are first proposed and when proposed for reissuance. States may either grant certification with appropriate conditions or deny certification of these permits.

Under the Corps' regulations, if a State has denied certification of any particular general permit, any person proposing to do work pursuant to such a permit must first obtain State water quality certification. If a State has conditioned the grant of certification upon some requirement of State review prior to the activity's commencing, such condition[s] must be satisfied before work can begin.

Some States have reported that for general permits for which they have denied water quality certification or on which they have imposed some condition of review, they are having difficulties ensuring that parties performing activities pursuant to these permits are applying to the State for water quality certification or otherwise fulfilling the conditions placed on the certification prior to the commencement of work under these permits.

At least one State is grappling with the problem through its 401 certification implementing regulations. The State of West Virginia denied certification for some nationwide permits issued by the Corps and conditioned the granting of certification for others. One of the conditions that West Virginia has imposed on those certifications that it granted (which thus apply to all nationwide permits in the State) is compliance with its 401 certification implementing regulations. The regulations in turn require that any person authorized to conduct an activity under a nationwide permit must, prior to conducting any activity authorized by a Corps general permit, publish a Class I legal advertisement in a qualified newspaper in the county where the activity is proposed to take place. The notice must describe the activity, advise the public of the scope of the conditionally granted certification, the public's right to comment on the proposed activity and its right to request a hearing. The applicant must forward a certificate of publication of this notice to the State agency prior to conducting any such activity.⁴⁵

The regulation further provides that any person whose property, interest in property or "other constitutionally protected interest under [the West Virginia Constitution] [is] directly affected by the Department's certification" may request a hearing within 15 days of the publication of the notice given by the applicant. The agency will then decide whether to "uphold, modify or withdraw certification for the individual activity."

West Virginia program officers have described the reasons for this procedure:

*Because of a long-standing concern . . . that untracked dredge and fill activities could prove disastrous on both individual and cumulative bases, the regulations require an authorized permittee [under federal law] to forward proof of publication and a copy of the newspaper advertisement. The information on the notice is logged into a computer system and a site specific inspection sheet is generated. Inspectors then may visit the site to determine compliance with permit conditions and to evaluate cumulative impacts.*⁴⁶

Without such notice and a tracking system of activities performed under these permits, such as that adopted by West Virginia, it will be difficult for a State to evaluate whether or not to grant or deny water quality certification for these permits when they come up for reissuance by the Corps or to condition them in such a way as to avoid adverse impacts peculiar to each of these general permits. It is advisable for

the States, regardless of whether they have granted or denied certification, to adopt as part of their 401 certification implementing regulations, provisions addressing these concerns for general permits.

Another way in which some States are attempting to minimize the potential environmental impact of nationwide permits is by stringently conditioning their certification. Alaska, for instance, placed conditions on nationwide permit 26 regarding isolated waters and waters above the headwaters. One of the conditions Alaska used excludes isolated or headwater wetlands of known or suspected high value. When there is uncertainty about a particular wetland, the Corps is required to send pre-discharge notification to designated State officials for a determination. (See Appendix D for a full description of conditions on nationwide permit 26).

2. Section 404 After-the-Fact Permits

The Corps of Engineers' regulations implementing Section 404 provide for the acceptance of after-the-fact permit applications for unauthorized discharges except under certain circumstances. Several States have expressed concern with after-the-fact permits, including the belief that once the discharges have taken place, the water quality certification process is moot. Because of that belief, many States report that they waive certification for after-the-fact permits. Such an approach frustrates law enforcement efforts generally and the water quality certification process in particular because it encourages illegal activity.

The evaluation of after-the-fact permit applications should be no different than for normal applications. Because the burden should be on the applicant to show compliance with water quality standards and other CWA requirements, rather than waiving certification, States could deny certification if the applicant cannot show from baseline data prior to its activity that the activity did not violate water quality standards. If data exist to determine compliance with water quality standards, the States' analysis should be no different merely because the work has already been partially performed or completed. Arkansas denied after-the-fact water quality certification of a wetland fill as follows:

[a certain slough] is currently classified as a warmwater fishery Draining and clearing of [its associated] wetlands will significantly alter the existing use by drastically reducing or eliminating the fishery habitat and spawning areas. This physical alteration of the lake will prevent it from being "water which is suitable for the propagation of indigenous warmwater species of fish" which is the definition of a warmwater fishery. Thus, the . . . project [violates] Section 3 (A) of the Arkansas Water Quality Standards, "Existing instream water uses and the level of water quality necessary to protect the

existing uses shall be maintained and protected." The Department recommends the area be restored to as near original contours as possible.

With after-the-fact permits, just as with any other permit application, if the State denies certification, the Corps is prohibited from granting a permit. If the applicant refuses to restore the area and does not have a permit, the applicant is subject to a potential enforcement action for restoration and substantial penalties for the unpermitted discharge of pollutants by the EPA, the Corps, a citizen under the citizen suit provision of the CWA, or by the State, if the activity violates a prohibition of State law.

If the State determines that it will get a better environmental result by conditioning certification, it may choose to take that approach. The condition might require mitigation for the filled area (where restoration may cause more environmental harm than benefit, for instance) with restoration or creation of a potentially more valuable wetland area.

In any event, a State should not waive certification of an after-the-fact permit application simply because it is after-the-fact.

VI. DEVELOPING 401 CERTIFICATION IMPLEMENTING REGULATIONS: ADDITIONAL CONSIDERATIONS

A comprehensive set of 401 certification implementing regulations would have both procedural and substantive provisions which maximize the State agency's control over the process and which make its decisions defensible in court. The very fact of having 401 certification regulations goes a long way in providing the State agency that implements 401 certification with credibility in the courts. Currently, no State has "ideal" 401 certification implementing regulations, and many do not have them at all. When 401 certification regulations are carefully considered, they can be very effective not only in conserving the quality of the State's waters, but in providing the regulated sectors with some predictability of State actions, and in minimizing the State's financial and human resource requirements as well.

Everything in this handbook relates in some way to the development of sound water quality standards and 401 certification implementing regulations that will enhance wetland protection. This section addresses some very basic procedural considerations of 401 certification implementing regulations which have not been treated elsewhere. These include provisions concerning the contents of an application for certification; the agency's timeframe for review; and the requirements placed on the applicant in the certification process.

A. Review Timeframe and "Complete" Applications

Under Section 401(a)(1) a State will be deemed to have waived certification if it fails to act within "a reasonable period of time (which shall not exceed one year) after receipt of such request." Program managers should keep in mind that the federal permitting or license agency may have regulations of its own which provide a time limit for the State's certification decision. For instance, Corps regulations say that a waiver "will be deemed to occur if the certifying agency fails or refuses to act on a request for certification within sixty days after receipt . . . unless the district engineer determines a shorter or longer period is reasonable"⁴⁷ FERC rules state that a certifying agency "is deemed to have waived the certification requirements if . . . [it] has not denied or granted certification by one year after the date the certifying agency received the request".⁴⁸ EPA regulations for Section 402 in non-authorized States set a limit of 60 days unless the Regional Administrator finds that unusual circumstances require a longer time.⁴⁹

States should coordinate closely with the appropriate federal agency on timing issues. For example, Alaska negotiated joint EPA/State procedures for coastal NPDES permit review. The agreement takes into account and coordinates EPA, Coastal Zone Management, and 401 certification time frames.

It is also advisable for the States to adopt rules which reasonably protect against an unintended waiver due, for example, to insufficient information to make a certification decision or because project plans have changed enough to warrant a reevaluation of the impacts on water quality. Thus, after taking the federal agencies' regulations into account, the State's 401 certification regulations should link the timing for review to what is considered receipt of a complete application.

Wisconsin, for instance, requires the applicant to submit a complete application for certification before the official agency review time begins. The State's regulations define the major components of a complete application, including the existing physical environment at the site, the size of the area affected, all environmental impact assessment information provided to the licensing or permitting agency, and the like. The rules State that the agency will review the application for completeness within 30 days of its receipt and notify the applicant of any additional materials reasonably necessary for review. Although the application will be deemed "complete" for purposes of review time if the agency does not request additional materials within 40 days of receipt of the application, the agency reserves the right to request additional information during the review process.⁵⁰

In the case of FERC projects, West Virginia has taken additional precautions with regard to time for review:

If the project application is altered or modified during the FERC licensing process prior to FERC's final decision, the applicant shall inform the Department of such changes. The Department may review such alterations or modifications and, if the changes are deemed significant by the Director, the Department may require a new application for certification. The Department will have ninety (90) days to review such changes or until the end of the year review period . . . , whichever is longer, to determine whether to require a new application or to alter its original certification decision. If the department requires a new application because of a significant application modification, then the Department will have six (6) months to issue its certification decision from the date of submission of the application.⁵¹

B. Requirements for the Applicant

It is very important, in particular for conserving the agency's resources and ensuring that there is sufficient information to determine that water quality standards and other provisions of the CWA will not be violated by the activity, to clarify that it is the applicant who is responsible for providing or proving particular facts or requirements.

For instance, Section 401(a)(1) requires that a State "establish procedures for public notice in the case of all applications for certification." West Virginia requires applicants for FERC licenses to be responsible for this notice. In the case of Section 404 permits, West Virginia has a joint notice process with the Corps to issue public notices for 404 applications which also notify the public of the State certification process. Thus, there is no need for West Virginia to require the applicant to do so for these permits.⁵²

A second consideration is that States should require the applicant to demonstrate the project's compliance with applicable federal and State law and regulation. EPA's 401 certification regulations name the sources of information a State should use as that contained in the application and other information "furnished by the applicant" sufficient to allow the agency to make a statement that water quality standards will not be violated.⁵³ Of course in addition, the regulations also refer to other information the agency may choose to examine which is not furnished by the applicant.

Ohio, for instance, has written a requirement for the applicant to demonstrate compliance into its 401 certification implementing regulations:

(A) The director shall not issue a Section 401 water quality certification unless he determines that the applicant has demonstrated that the discharge of dredged or fill material to waters of the state or the creation of any obstruction or alteration in waters of the state will.⁵⁴ (1) Not prevent or interfere with the attainment or maintenance of applicable water quality standards; (2) Not result in a violation of any applicable provision of the following sections of the Federal Water Pollution Control Act [301, 302, 303, 306 and 307].

(B) Notwithstanding an applicant's demonstration of the criteria in paragraph (A) . . . the director may deny an application for a Section 401 water quality certification if the director concludes that the discharge of dredged or fill material or obstructions or alterations in waters of the state will result in adverse long or short term impact on water quality.⁵⁵

C. Permit Fees

A very significant concern for all States who plan to initiate or expand their 401 certification program is the availability of funding. Application fee requirements are a potential funding source to supplement State program budgets. The State of California's Regional Water Quality Control Boards require filing fees for 401 certification applications unless a Board determines that certification is not required. The fee structure is spelled out in the California Water Code. The money collected from the fees goes into the State agency's general fund. The Regional Boards may recover some portion of the fees through the budget request process. The State of Ohio also has a fee structure for 401 certification applicants. In Ohio, however, fees go into the State's general fund, rather than back into the State agency. Neither State collects fees sufficient to support the 401 certification program fully. Despite these potential barriers, application fees could provide a much needed funding source which States should explore.

D. Basis for Certification Decisions

The regulations should also set out the grounds on which the decision to grant or deny certification will be based, the scope of the State's review, and the bases for conditioning a certification. If a State has denied water quality certification for a general permit or has conditioned such a permit on some requirement of State review, the State's 401 certification implementing regulations might also outline the obligations

of a person proposing to accomplish work under such a permit. The following is a hypothetical example of regulatory language a State might use to define the grounds for the State's decision to grant, condition, or deny certification:

In order to obtain certification of any proposed activity that may result in a discharge to waters of the United States, an applicant must demonstrate that the entire activity over its lifetime will not violate or interfere with the attainment of any limitations or standards contained in Section 301, 302, 303, 306, and 307, the federal regulations promulgated pursuant thereto, and any provisions of state law or regulation adopted pursuant to, or which are more stringent than, those provisions of the Clean Water Act.

The agency may condition certification on any requirements consistent with ensuring the applicant's compliance with the provisions listed above, or with any other requirements of state law related to the maintenance, preservation, or enhancement of water quality.

This sample regulatory language provides the grounds for the certification decision, sets the scope of review (lifetime effects of the entire activity) and clearly States that the applicant must demonstrate compliance. For purposes of conditioning the certification in the event it is granted, the same standards can be applied, with the addition of any other requirements of State law that are related to water quality.

Regulations are not project specific. They must be generally applicable to all projects subject to 401 certification review, while at the same time providing reasonable notice to an applicant regarding the general standards employed by the agency in the certification process. (A State may choose to adopt license/permit-specific regulations for 401 certification, but such regulations will still have to be applicable to all activities that may occur pursuant to that license or permit).

There are other considerations that should be addressed in 401 certification implementing regulations, some of which have been mentioned in other parts of this handbook. These include provisions which require applicants for federal licenses and permits which may result in a discharge to apply for water quality certification; provisions which define waters of the State to include wetlands and which define other pertinent terms; and provisions addressing general permits.

VII. EXISTING AND EMERGING SOURCES OF DATA TO AID 401 CERTIFICATION AND STANDARDS DECISION MAKERS

According to a number of State program managers, more data on wetland functions, or "uses," would greatly assist the certification process. Wetland ecosystems not only perform a wide variety of functions but do so in varying degrees. Public agencies and private applicants currently employ a number of assessment methods such as the Wetlands Evaluation Technique and the Habitat Evaluation Procedure to determine what functions or uses exist in a particular wetland system.⁵⁶ In many States, however, water quality certification reviewers lack the resources to perform even a simple assessment of a wetland's boundaries, values and functions. Information about the location and types of wetland systems, and of the functions they may perform (such as flood storage, habitat, pollution attenuation, nutrient uptake, and sediment fixing) would aid standard writers in developing appropriate uses and criteria for wetlands, and allow 401 certification officials to conduct a more thorough review.

Several States already have extensive knowledge of their wetland resources, and data gathering efforts are also being undertaken by EPA, the U.S. Fish and Wildlife Service and other agencies.⁵⁷ Although these efforts to inventory and classify wetlands have not been closely tied to the 401 certification process in the past, these existing data can be valuable sources of information for 401 certification reviewers. It is important to remember, however, that wetland boundaries for regulatory purposes may differ from those identified by National Wetland Inventory maps for general inventory purposes. The EPA, Corps of Engineers, Fish and Wildlife Service, and Soil Conservation Service have adopted a joint manual for identifying and delineating wetlands in the United States. The manual will be available in June, 1989.⁵⁸

There are several programs that offer technical support for 401 certification decisions. For example, approximately forty States have worked with the Nature Conservancy to establish "natural heritage programs," which identify the most critical species, habitats, plant communities, and other natural features within a State's territorial boundaries. Most States now have a State natural heritage office to coordinate this identification program. Inventory efforts such as the natural heritage program could give 401 certification managers some of the information they need to limit or prohibit adverse water quality impacts in important wetland areas. Specifically, the inventory process can identify existing wetland uses in order to maintain them. The information may also be used in identifying wetlands for Outstanding Resource Waters designation.⁵⁹

The Fish and Wildlife Service maintains a Wetlands Values Data Base which may be very useful in identifying wetland functions and in designating wetland uses for water quality standards. The data base is on computer and contains an annotated bibliography of scientific literature on wetland functions and values.⁶⁰ Several States

have established critical area programs to identify and protect unique and highly sensitive land and water resources. These programs can provide data to the State water quality certification office and thereby strengthen the scientific basis for 401 certification decision making.⁶¹

Another potential source of information which might identify wetlands appropriate for designation as Outstanding Resource Waters are the wetland plans which each State is required to develop to comply with the 1986 Emergency Wetlands Resources Act. Beginning in fiscal year 1988, Statewide Comprehensive Outdoor Recreation Plans (SCORP) must now contain a Wetlands Priority Conservation Plan approved by the Department of Interior. Although these plans are primarily focused on wetlands for acquisition, they are a potential source of data on wetland locations and functions. The wetlands identified may also be suitable for special protection under the Outstanding Resource Waters provisions of the antidegradation policy.

The Advance Identification program (ADID), conducted by EPA and the permitting authority, may also furnish a considerable amount of useful information. EPA's 404(b)(1) Guidelines contain a procedure for identifying in advance areas that are generally suitable or unsuitable for the deposit of dredged or fill material.⁶² In recent years, EPA has made greater use of this authority. ADID is often used in wetland areas that are experiencing significant development or other conversion pressures. Many ADID efforts generate substantial data on the location and functions of wetlands within the study area such as wetland maps, and habitat, water quality, or hydrological studies.

Special Area Management Plans (SAMPs) are another planning process which may yield useful information. SAMPs refer to a process authorized by the 1980 amendments to the Coastal Zone Management Improvement Act, which provides grants to States to develop comprehensive plans for natural resource protection and "reasonable coastal-dependent economic growth."⁶³ The SAMP process implicitly recognizes the State water quality certification process, directing all relevant local, State, and federal authorities to coordinate permit programs in carrying out the completed SAMP. The Corps of Engineers has supported and initiated several of these processes. In addition, other SAMPs have been completed by several States.

Much of these data can be collected, combined, and used in decision making with the aid of geographic-based computer systems that can store, analyze, and present data related to wetlands in graphic and written forms.⁶⁴ A reviewing official can quickly access and overlay a range of different existing information bases such as flora and fauna inventories, soil surveys, remote sensing data, watershed and wetland maps, existing uses and criteria, and project proposal information.

Finally, data is presently emerging on the use of wetlands as treatment areas for wastewater, stormwater, and non-point discharges.⁶⁵ Florida, for instance, has adopted a rule on wastewater releases into wetlands.⁶⁶ Florida prohibits wastewater discharges into the following kinds of wetlands: those designated as outstanding waters of the State; wetlands within potable water supplies; shellfish propagation or harvesting waters; wetlands in areas of critical State concern; wetlands where herbaceous ground cover constitutes more than thirty percent of the uppermost stratum (unless seventy-five percent is cattail); and others. Wastewater discharges are permitted in certain wetlands dominated by woody vegetation, certain hydrologically altered wetlands, and artificially created wetlands; however, the State applies special effluent limitations to take account of a wetland's ability to assimilate nitrogen and phosphorus. It also applies qualitative⁶⁷ and quantitative⁶⁸ design criteria.

The rule establishes four "wetland biological quality" standards. First, the flora and fauna of the wetland cannot be changed so as to impair the wetland's ability to function in the propagation and maintenance of fish and wildlife populations or substantially reduce its effectiveness in wastewater treatment. Second, the Shannon-Weaver diversity index of benthic macroinvertebrates cannot be reduced below fifty percent of background levels. Third, fish populations must be monitored and maintained, and an annual survey of each species must be conducted. Fourth, the "importance value" of any dominant plant species in the canopy and subcanopy at any monitoring station cannot be reduced by more than fifty percent, and the average "importance value" of any dominant plant species cannot be reduced by more than twenty-five percent.⁶⁹

These types of efforts, constantly being adjusted to take account of new information in a field where knowledge is rapidly expanding, are fertile sources of information for wetland standard writers and 401 certification decision makers.

VIII. SUMMARY OF ACTIONS NEEDED

This handbook has only scratched the surface of issues surrounding effective use of 401 certification to protect wetlands. The preceding discussion and examples from active States have highlighted possible approaches for all States to incorporate into their 401 certification programs. The handbook shows that there are many things that a State can act on right away to improve the effectiveness of 401 certification to protect the integrity of its wetlands. At the same time, there are improvements to water quality standards for wetlands which will have to take place within a longer timeframe.

A. Steps States Can Take Right Away

- * All states should begin by explicitly incorporating wetlands into their definitions of state waters in both state water quality standards regulations, and in state 401 certifications regulations.**
- * States should develop or modify their regulations and guidelines for 401 certification and water quality standards to clarify their programs, codify their decision process, and to incorporate special wetlands considerations into the more traditional water quality approaches.**
- * States should make more effective use of their existing narrative water quality standards (including the antidegradation policy) to protect wetlands.**
- * States should initiate or improve upon existing inventories of their wetland resources.**
- * States should designate uses for their wetlands based on estimates of wetland functions typically associated with given wetland types. Such potential uses could be verified for individual applications with an assessment tool such as the Wetlands Evaluation Technique or Habitat Evaluation Procedure.**
- * States should tap into the potential of the outstanding resource waters tier of the antidegradation policy for wetlands. It may not be an appropriate designation for all of a state's wetlands, but it can provide excellent protection to particularly valuable or ecologically sensitive wetlands from both physical and chemical degradation.**
- * States should incorporate wetlands and 401 certification into their other water quality management processes. Integrating this tool with other mechanisms such as coastal zone management programs, point and nonpoint source programs, and water quality management plans will help fill the gaps of each individual tool and allow better protection of wetlands systems from the whole host of physical, chemical, and biological impacts.**

Time and the courts may be needed to resolve some of the more complicated and contentious issues surrounding 401 certification such as which federal permits and licenses require 401 certification. EPA intends to support States in resolving such issues.

OWP, in cooperation with the Office of Water Regulations and Standards (OWRS), will build on this 401 certification handbook by developing guidance in FY 89-90 on water quality standards for wetlands. The guidance will provide the framework for States to incorporate wetlands into their water quality standards. The guidance will: require States to include wetlands as "waters of the State;" provide methods to designate wetland uses that recognize differences in wetland types and functions; address some chemical-specific and narrative biological criteria for wetlands; and discuss implementation of State antidegradation policies.

B: Laying the Groundwork for Future Decisions

Many States are successfully applying their existing narrative and, to a lesser extent, numeric water quality criteria to their wetland resources. Nevertheless, more work is needed to test the overall adequacy and applicability of these standards for wetlands, and to develop additional criteria where needed.

For example, existing criteria related to pH do not account for the extreme natural acidity of many peat bogs nor the extreme alkalinity of certain fens. Also, many existing criteria focus too extensively on the chemical quality of the water column without adequately protecting the other physical and biological components which are an integral part of wetland aquatic systems. Some numeric criteria for chemicals may not be protective enough of species (particularly bird species) which feed, breed, and/or spend a portion of their life cycle in wetlands. Hydrological changes can have severe impacts on wetland quality, but these changes are rarely addressed in traditional water quality standards.

Research of interest to State programs is being sponsored by the Wetlands Research Program of EPA's Office of Research and Development (ORD). Research covers three areas: Cumulative Effects, Water Quality, and Mitigation. Although these efforts will be developed over several years, interim products will be distributed to the States. States may find these products of use when developing criteria and standards, when identifying and designating wetlands as outstanding resource waters, and when making 401 certification decisions.

Cumulative Effects:

EPA's research on cumulative effects of wetlands takes a regional perspective. Through a series of regional pilot studies involving landscape analyses, ORD is correlating water quality conditions at the outlets of major watersheds with the percentage of wetlands in these watersheds. The types of wetlands, their position, and

non-wetland factors are also being analyzed. The results will allow water quality managers in these regions to specify the optimal percentage and combination of various types of wetlands needed to maintain water quality of lakes and rivers. Such watershed criteria could be used to guide efforts to create or restore wetlands for the purpose of intercepting and improving the quality of nonpoint runoff.

The pilot studies will also determine which wetland features can be used to predict wetland functions. Once differences among wetlands can be identified based on their functions, it will be possible to classify particular wetlands with regard to specific designated uses.

The cumulative effects program is using the results of the pilot studies as technical support for developing a "Synoptic Assessment Method". This method has already been used to rank watersheds within certain regions, according to the likely cumulative benefits of their wetlands. Also, sources of information useful for designating uses of individual wetlands were described by ORD in EPA's draft guidance for Advance Identification Appendix D.⁷⁰ Information on regionally rare or declining wetland wildlife, which could be used as one basis for establishing "special aquatic areas" in selected wetlands, is also available from the ORD Wetlands Research Team at the Corvallis EPA Lab.

Water Quality:

Another ORD study, being implemented through the Duluth Lab, is examining impacts to the water quality and biota of 30 wetlands, before and after regional development. This study will be useful, as part of 401 certification, for developing performance standards for activities which may affect wetland water quality.

Several research projects being proposed by the Wetland Research Program could produce information very useful to water quality managers. These are described in ORD's publication, "Wetlands and Water Quality: A Research and Monitoring Implementation Plan for the Years 1989-1994". Many of these proposals are planned, but will hinge upon funding decisions in future budget years. Those which drew the most support from a 1988 EPA workshop of scientists and State program administrators were as follows:

- o **Water Quality Criteria to Protect Wetland Function.** Existing quality criteria for surface waters would be reviewed for applicability to wetlands. Methods for biological and chemical monitoring of wetlands would be refined, and a field manual produced.

- o **Ecological Status and Trends of the Wetland Resource.** A nationwide network would be established to monitor the wetland resource. Field surveys would define the expected range of numerical values within each region for particular chemicals and especially, for biological community metrics, across a gradient of sites ranging from nearly-pristine to severely disturbed.
- o **Waste Assimilative Limits of Wetlands.** Observable features which determine the long-term ability of wetlands to retain contaminants and nutrients would be tested. "Safe" loading limits for various substances would be proposed for specific wetland types or regions. Similar kinds of information would also become available from a research effort focused specifically on artificial wetlands and coordinated by EPA-Cincinnati, in cooperation with the Corvallis and Duluth Labs. That study would recommend engineering design factors essential in wetlands constructed by municipalities for tertiary wastewater treatment.

Mitigation:

Information useful to 401 certification will also originate from ORD'S mitigation research. This research aims to determine if created and restored wetlands replace functions lost by wetland destruction permitted under Section 404. The research is organized to (1) synthesize current knowledge on wetland creation and restoration, (2) compile 404 permit information on created and restored wetlands, and (3) compare created and naturally occurring wetlands. Research results will be incorporated into a "Mitigation Handbook" useful for designing and evaluating mitigation projects. A literature synthesis being developed as a Provisional Guidance Document will be available in 1989. A provisional version of the handbook will be produced in 1990. This will assist States in identifying areas at greatest risk due to 404 permit activities and thus help target 401 certification and water quality standards activities.

APPENDIX A

Provided below are State 401 certification contacts and EPA wetlands contacts who can provide assistance in applying 401 to wetlands.

EPA has asked the Council of State Governments (CSG) to maintain a database of State wetland contacts and programs. In order to help keep the database up to date, please contact CSG when you have changes in your program or staff contacts, or if you come across inaccuracies in other State programs. You can access this database using virtually any computer with a modem. In order to obtain your free username and password contact:

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APPENDIX B FEDERAL DEFINITIONS

The federal definition of "waters of the United States" is (40 CFR Section 232.2(q)):

- (1) All waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
- (2) All interstate waters including interstate wetlands;
- (3) All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which would or could affect interstate or foreign commerce including any such waters:
 - (i) Which are or could be used by interstate or foreign travelers for recreational or other purposes; or
 - (ii) From which fish or shellfish could be taken and sold in interstate or foreign commerce;
 - (iii) Which are used or could be used for industrial purposes by industries in interstate commerce;*
- (4) All impoundments of waters otherwise defined as waters of the United States under this definition;
- (5) Tributaries of waters identified in paragraphs 1-4.
- (6) The territorial sea;
- (7) Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in 1-6; waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA (other than cooling ponds as defined in 40 CFR § 423.11(m) which also meet criteria in this definition) are not waters of the United States.

- (* Note: EPA has clarified that waters of the U.S. under the commerce connection in (3) above also include, for example, waters:

Which are or would be used as habitat by birds protected by Migratory Bird Treaties or migratory birds which cross State lines;
Which are or would be used as habitat for endangered species;
Used to irrigate crops sold in interstate commerce.)

The federal definition of "wetlands" (40 CFR § 232.2(r)). Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

APPENDIX C

SCOPE OF PROJECT REVIEW: PENNSYLVANIA DAM PROPOSAL EXAMPLE

The dam proposed by the City of Harrisburg was to be 3,000 feet long and 17 feet high. The dam was to consist of 32 bottom hinged flap gates. The dam would have created an impoundment with a surface area of 3,800 acres, a total storage capacity of 35,000 acre feet, and a pool elevation of 306.5 feet. The backwater would have extended approximately eight miles upstream on the Susquehanna River and approximately three miles upstream on the Conodoguinet Creek.

The project was to be a run-of-the-river facility, using the head difference created by the dam to create electricity. Maximum turbine flow would have been 10,000 cfs (at a nethead of 12.5) and minimum flow would have been 2,000 cfs. Under normal conditions, all flows up to 40,000 cfs would have passed through the turbines.

The public notice denying 401 certification for this project stated as follows:

1. The construction and operation of the project will result in the significant loss of wetlands and related aquatic habitat and acreage. More specifically:
 - a. The destruction of the wetlands will have an adverse impact on the local river ecosystem because of the integral role wetlands play in maintaining that ecosystem.
 - b. The destruction of the wetlands will cause the loss of beds of emergent aquatic vegetation that serve as habitat for juvenile fish. Loss of this habitat will adversely affect the relative abundance of juvenile and adult fish (especially smallmouth bass).
 - c. The wetlands which will be lost are critical habitat for, among other species, the yellow crowned night heron, black crowned night heron, marsh wren and great egret. In addition, the yellow crowned night heron is a proposed State threatened species, and the marsh wren and great egret are candidate species of special concern.
 - d. All affected wetlands areas are important and, to the extent that the loss of these wetlands can be mitigated, the applicant has failed to demonstrate that the mitigation proposed is adequate. To the extent that adequate mitigation is possible, mitigation must include replacement in the river system.

- e. Proposed riprapping of the shoreline could further reduce wetland acreage. The applicant has failed to demonstrate that there will not be an adverse water quality and related habitat impact resulting from riprapping.
 - f. Based upon information received by the Department, the applicant has underestimated the total wetland acreage affected.
2. The applicant has failed to demonstrate that there will be no adverse water quality impacts from increased groundwater levels resulting from the project. The ground water model used by the applicant is not acceptable due to erroneous assumptions and the lack of a sensitivity analysis. The applicant has not provided sufficient information concerning the impact of increased groundwater levels on existing sites of subsurface contamination, adequacy of subsurface sewage system replacement areas and the impact of potential increased surface flooding. Additionally, information was not provided to adequately assess the effect of raised groundwater on sewer system laterals, effectiveness of sewer rehabilitation measures and potential for increased flows at the Harrisburg wastewater plant.
 3. The applicant has failed to demonstrate that there will not be a dissolved oxygen problem as a result of the impoundment. Present information indicates the existing river system in the area is sensitive to diurnal, dissolved oxygen fluctuation. Sufficient information was not provided to allow the Department to conclude that dissolved oxygen standards will be met in the pool area. Additionally, the applicant failed to adequately address the issue of anticipated dissolved oxygen levels below the dam.
 4. The proposed impoundment will create a backwater on the lower three miles of the Conodoguinet Creek. Water quality in the Creek is currently adversely affected by nutrient problems. The applicant has failed to demonstrate that there will not be water quality degradation as a result of the impoundment.
 5. The applicant has failed to demonstrate that there will not be an adverse water quality impact resulting from combined sewer overflows.
 6. The applicant has failed to demonstrate that there will not be an adverse water quality impact to the 150 acre area downstream of the proposed dam and upstream from the existing Dock Street dam.
 7. The applicant has failed to demonstrate that the construction and operation of the proposed dam will not have an adverse impact on the aquatic resources upstream from the proposed impoundment. For example, the suitability of the impoundment for smallmouth bass spawning relative to the frequency of turbid

conditions during spawning was not adequately addressed and construction of the dam and impoundment will result in a decrease in the diversity and density of the macroinvertebrate community in the impoundment area.

8. Construction of the dam will have an adverse impact on upstream and downstream migration of migratory fish (especially shad). Even with the construction of fish passageways for upstream and downstream migration, significant declines in the numbers of fish successfully negotiating the obstruction are anticipated.
9. The applicant has failed to demonstrate that there will not be an adverse water quality impact related to sedimentation within the pool area.

APPENDIX D

EXAMPLES OF CERTIFICATION CONDITIONS

****MARYLAND****

Maryland certified with conditions the fill/alteration of 6.66 acres of non-tidal wetlands as part of the construction of an 18 hole golf course and a residential subdivision. Approximately three-fourths of the entire site of 200 acres had been cleared for cattle grazing and agricultural activities in the past. As a result, a stream on the east side of the property with no buffer had been severely degraded. An unbuffered tractor crossing had also degraded the stream. A palustrine forested wetland area on the southeast side of the property received stormwater runoff from a highway bordering the property and served as a flood storage and ground water recharge area. Filling this area for construction of a fairway would eliminate some 4.5 acres of wetlands. Additionally, other smaller wetland areas on the property, principally around an old farm pond that was to be fashioned into four separate ponds for water traps, were proposed to be altered or lost as a result of the development.

The Corps did not exercise its discretionary authority to require an individual permit and thus the project was permitted under a nationwide permit (26). The State decided to grant certification, conditioned on a number of things that it believed would improve the water quality of the stream in the long run.

The filled wetland areas had to be replaced on an acre-for-acre basis on the property and in particular, the 4.5 acre forested palustrine wetland had to be replaced onsite with a wetland area serving the same functions regarding stormwater runoff from the highway.

Some of the other conditions placed on the certification were as follows:

1. The applicant must obtain and certify compliance with a grading and sediment control plan approved by the [name of county] Soil Conservation District;
2. Stormwater runoff from impervious surfaces shall be controlled to prevent the washing of debris into the waterway. Stormwater drainage facilities shall be designed, implemented, operated and maintained in accordance with the requirements of the [applicable county authority];

3. The applicant shall ensure that fish species are stocked in the ponds upon completion of the construction phase in accordance with the requirements of the [fisheries division of the natural resources department of the State];
4. The applicant shall ensure that all mitigation areas are inspected annually by a wetlands scientist to ensure that all wetlands are functioning properly;
5. A vegetated buffer shall be established around the existing stream and proposed ponds;
6. Biological control methods for weed, insects and other undesirable species are to be employed whenever possible on the greens, tees, and fairways located within or in close proximity to the wetland or waterways;
7. Fertilizers are to be used on greens, tees, and fairways only. From the second year of operation, all applications of fertilizers at the golf course shall be in the lower range dosage rates [specified]. The use of slow release compounds such as sulfur-coated urea is required. There shall be no application of fertilizers within two weeks of verticutting, coring or spiking operations.

**** WEST VIRGINIA ****

**THE FOLLOWING GENERAL CONDITIONS APPLY TO ALL NATIONWIDE
PERMITS IN WEST VIRGINIA:**

1. Permittee will investigate for water supply intakes or other activities immediately downstream which may be affected by suspended solids and turbidity increases caused by work in the watercourse. He will give notice to operators of any such water supply intakes before beginning work in the watercourse in sufficient time to allow preparation for any change in water quality.
2. When no feasible alternative is available, excavation, dredging or filling in the watercourse will be done to the minimum extent practicable.
3. Spoil materials from the watercourse or onshore operations, including sludge deposits, will not be dumped into the water course or deposited in wetlands.
4. Permittee will employ measures to prevent or control spills from fuels, lubricants, or any other materials used in construction from entering the watercourse.
5. Upon completion of earthwork operations, all fills in the watercourse or onshore and other areas disturbed during construction, will be seeded, riprapped, or given some other type of protection from subsequent soil erosion. If riprap is utilized, it is to be of such weight and size that bank stress or slump conditions will not be created due to its placement. Fill is to be clean and of such composition that it will not adversely effect the biological, chemical or physical properties of the receiving waters.
6. Runoff from any storage areas or spills will not be allowed to enter storm sewers without acceptable removal of solids, oils and toxic compounds. All spills will promptly be reported to the appropriate Department of Natural Resources office.
7. Best Management Practices for sediment and erosion control as described in the 208 Construction Water Quality Management Plan are to be implemented.
8. Green concrete will not be permitted to enter the watercourse unless contained by tightly sealed forms or cells. Concrete handling equipment will not discharge waste washwater into the watercourse or wetlands without adequate wastewater treatment.

9. No instream work is permissible during the fish spawning season April through June.
10. Removal of mature riparian vegetation not directly associated with project construction is prohibited.
11. Instream equipment operation is to be minimized and should be accomplished during low flow periods.
12. Nationwide permits are not applicable for activities on Wild and Scenic Rivers or study streams, streams on the Natural Streams Preservation List or the New River Gorge National River. These streams include New River (confluence with Gauley to mouth of Greenbrier); Greenbrier River (mouth to Knapps Creek), Birch River (mouth to Cora Brown Barge in Nicholas County), Anthony Creek, Cranberry Run, Bluestone River, Gauley River, and Meadow River.
13. Each permittee shall follow the notice requirements contained in Section 9 of the Department of Natural Resources Regulations for State Certification of Activities Requiring Federal Licenses and Permits, Chapter 20-1, Series XIX (1984).
14. Each permittee shall, if he does not understand or is not aware of applicable Nationwide Permit conditions, contact the Corps of Engineers prior to conducting any activity authorized by a nationwide permit in order to be advised of applicable conditions.

**** ALASKA ****

**EXAMPLES OF CERTIFICATION CONDITIONS REQUIRED FOR
NATIONWIDE PERMIT 26 FROM ALASKA**

(26) Discharges of dredged or fill material into the waters listed in subparagraph (i) and (ii) of this paragraph which do not cause the loss or substantial adverse modification of 10 acres or more of waters of the United States, including wetlands. For discharges which cause the loss or substantial adverse modification of 1 to 10 acres of such waters, including wetlands, notification of the District Engineer is required in accordance with 330.7 of this part (see Section 2 of this Public Notice).

(i) Non-tidal rivers, streams, and their lakes and impoundments, including adjacent wetlands, that are located above the headwaters.

(ii) Other non-tidal waters of the United States, including adjacent wetlands, that are not part of the surface tributary system to interstate waters or navigable waters of the United States (i.e., isolated waters).

REGIONAL CONDITION H: Work in a designated anadromous fish stream is subject to authorization from the Alaska Department of Fish and Game. (No change from REGIONAL CONDITION H previously published in SPN 84-7.)

REGIONAL CONDITION J:

a. If, during review of the pre-discharge notification, the Corps of Engineers or the designated State of Alaska reviewing officials determine that the proposed activity would occur in any of the following areas, the applicant will be advised that an individual 404 permit will be required. Where uncertainty exists, the Corps will send pre-discharge notification to the designated State officials for a determination.

1. National Wildlife Refuges
2. National Parks and Preserves
3. National Conservation Areas
4. National Wild and Scenic Rivers
5. National Experimental Areas
6. State Critical Habitat AREas
7. State Sanctuaries
8. State Ranges and Refuges
9. State Eagle Preserves
10. State Ecological Reserves and Experimental Areas
11. State Recreation Areas

12. Wetlands contiguous with designated anadromous fish streams
13. Headwaters and isolated wetlands in designated public water supply watersheds of Craig, Hoonah, Hydaburg, Anchorage, Cordova, Seldovia and Kodiak
14. Sitka Area: Wetlands in the Swan Lake Area Meriting Special Attention (AMSA) in the district Coastal Management Plan
15. Anchorage area: Designated Preservation and Conservation Wetlands in the Wetlands Management Plan
16. Bethel area: Designated Significant Wetlands in the district Coastal Management Plan not covered under General Permit 83-4
17. Hydaburg area: The six AMSA's of the district Coastal Management Plan
18. Bering Strait area: All designated conservation AMSA's of the district Coastal Management Plan
19. Juneau area: Designated Sensitive Wetlands of the district Coastal Management Plan
20. NANA: Designated Special Use Areas and Restricted/ Sensitive areas in the district Coastal Management Plan
21. Tanana Basin Area Plan: type A-1 wetlands in the Alaska Rivers Cooperative State/Federal Study
22. Susitna Area Plan: type A-1 wetlands in the Alaska Rivers Cooperative State/Federal Study
23. High value headwaters and isolated wetlands identified once the ongoing Wetlands Management Plans or Guides listed in b-5 (below) are completed
24. Alaska Natural Gas Pipeline Corridor designated type A and B wetlands
25. Headwaters and isolated waters which include identified bald eagle, peregrine falcon, and trumpeter swan nesting areas
26. ADF&G identified waterfowl use areas of statewide significance
27. Designated caribou calving areas.

Any individual permit issued in locations covered by district coastal management plans, State or Federal regional wetlands plans or local wetlands plans (numbers 14 through 23 above) will be consistent with the plan provisions for the specific wetland type and may require adding stipulations.

Oil and gas activities in the North Slope Borough which involve the discharge of dredged or fill material into waters including wetlands are not covered by the previous nationwide permit under 33 CFR 330.4(a) and (b) and are not covered under the nationwide permit 26. These activities require individual 404 permits or other general permits. These activities were previously excluded by the Corps of Engineers Special Public Notice 84-3 dated March 9, 1984.

b. Pre-discharge notification received by the Corps of Engineers for the discharge of dredged or fill material in the following areas will be provided to designated State agencies which include (1) the appropriate ADEC Regional Environmental Supervisor, (2) the appropriate ADF&G Regional Habitat Supervisor, (3) the appropriate DGC regional contact point, and (4) the appropriate DNR regional contact (should DNR indicate interest in receiving notices).

1. Headwater tributaries of designated anadromous fish streams and their adjacent contiguous wetlands
2. Open water areas of isolated wetlands greater than 10 acres and lakes greater than 10 acres above the headwaters
3. North Slope Borough wet and moist tundra areas not already covered by APP process
4. Wet and moist tundra areas outside the North Slope Borough
5. High value headwaters and isolated wetlands identified in the following ongoing State or Federal wetland management guides or plans: Mat-Su, Kenai Borough, Valdez, North Star Borough Yukon Delta and Copper River Basin
6. Headwater or isolated wetlands within local CZM district boundaries or the identified coastal zone boundary, whichever is geographically smaller (not withstanding the requirements under "a." 14.20 (above))
7. Anchorage Area: designated Special Study areas in the Wetlands Management Plan
8. Tanana Basin Area Plan: areas designated A-2, B-1, B-2 in the Alaska River Cooperative State/Federal Study
9. Susitna Area Plan: areas designated A-2, A-3, A-4 in the Alaska River Cooperative State/Federal Study

The designated officials of the State of Alaska, and the Corps will evaluate the notifications received for the areas listed "b." above under the provisions set forth in 33 CFR 330.7 (see Section 2 of this Public Notice) which includes an evaluation of the

environmental effects using the guidelines set forth in Section 404(b)(1) of the Clean Water Act. Notices shall be screened against the nationwide conditions under 330.5(b) (See Section 4 of the Public Notice) using available resource information. Conditions 330.5(b)(1), (2), (3), (4), (6), and (7) and (9) will be focused on during the State review.

The State's review of these areas under "b." above will encompass the following:

1. After receiving pre-discharge notification from the Corps, the State of Alaska shall comment verbally, and/or if time permits, in writing to the Corps District Engineer through a single State agency concerning the need for an individual permit review.

2. Existing fish and wildlife atlases and field knowledge shall be used to evaluate notices. If significant resource values are not identified for the area in question or if insufficient resource information exists, State agencies will not request an individual permit unless:

- (a) An on-site field evaluation will be conducted, weather permitting, during the extended review provided under the individual permit, or;

- (b) Federal resource agencies plan a similar field evaluation that could provide identical information to State resource agencies.

Should either the State review or the Corps review determine that the nationwide permit is not applicable, an individual 404 permit will be required.

New categories may be added at a later date should either the Corps or the State of Alaska recognize a need. These changes will be made available for public review through a public notice and comment period at the appropriate time.

This REGIONAL CONDITION shall be effective for the period of time that nationwide permit 26 is in effect unless the REGIONAL CONDITION is sooner revoked by the Department of the Army with prior coordination with the State of Alaska.

APPENDIX E

Federal Register / Vol. 45, No. 249 / Wednesday, December 24, 1980 / Rules and Regulations 85355

Subpart H—Actions To Minimize Adverse Effects

Note.—There are many actions which can be undertaken in response to § 203.10(d) to minimize the adverse effects of discharges of dredged or fill material. Some of these, grouped by type of activity, are listed in this subpart.

§ 230.70 Actions concerning the location of the discharge.

The effects of the discharge can be minimized by the choice of the disposal site. Some of the ways to accomplish this are by:

- (a) Locating and confining the discharge to minimize smothering of organisms;
- (b) Designing the discharge to avoid a disruption of periodic water inundation patterns;
- (c) Selecting a disposal site that has been used previously for dredged material discharge;
- (d) Selecting a disposal site at which the substrate is composed of material similar to that being discharged, such as discharging sand on sand or mud on mud;

(e) Selecting the disposal site, the discharge point, and the method of discharge to minimize the extent of any plume;

(f) Designing the discharge of dredged or fill material to minimize or prevent the creation of standing bodies of water in areas of normally fluctuating water levels, and minimize or prevent the drainage of areas subject to such fluctuations.

§ 230.71 Actions concerning the material to be discharged.

The effects of a discharge can be minimized by treatment of, or limitations on the material itself, such as:

(a) Disposal of dredged material in such a manner that physiochemical conditions are maintained and the potency and availability of pollutants are reduced.

(b) Limiting the solid, liquid, and gaseous components of material to be discharged at a particular site;

(c) Adding treatment substances to the discharge material;

(d) Utilizing chemical flocculants to enhance the deposition of suspended particulates in diked disposal areas.

§ 230.72 Actions controlling the material after discharge.

The effects of the dredged or fill material after discharge may be controlled by:

(a) Selecting discharge methods and disposal sites where the potential for erosion, slumping or leaching of materials into the surrounding aquatic ecosystem will be reduced. These sites or methods include, but are not limited to:

(1) Using containment levees, sediment basins, and cover crops to reduce erosion;

(2) Using lined containment areas to reduce leaching where leaching of chemical constituents from the discharged material is expected to be a problem;

(b) Capping in-place contaminated material with clean material or selectively discharging the most contaminated material first to be capped with the remaining material;

(c) Maintaining and containing discharged material properly to prevent point and nonpoint sources of pollution;

(d) Timing the discharge to minimize impact, for instance during periods of unusual high water flows, wind, wave, and tidal actions.

§ 230.73 Actions affecting the method of dispersion.

The effects of a discharge can be minimized by the manner in which it is dispersed, such as:

(a) Where environmentally desirable, distributing the dredged material widely in a thin layer at the disposal site to maintain natural substrate contours and elevation;

(b) Orienting a dredged or fill material mound to minimize undesirable obstruction to the water current or circulation pattern, and utilizing natural bottom contours to minimize the size of the mound;

(c) Using silt screens or other appropriate methods to confine suspended particulate/turbidity to a small area where settling or removal can occur;

(d) Making use of currents and circulation patterns to mix, disperse and dilute the discharge;

(e) Minimizing water column turbidity by using a submerged diffuser system. A similar effect can be accomplished by submerging pipeline discharges or otherwise releasing materials near the bottom;

(f) Selecting sites or managing discharges to confine and minimize the release of suspended particulates to give decreased turbidity levels and to maintain light penetration for organisms;

(g) Setting limitations on the amount of material to be discharged per unit of time or volume of receiving water.

§ 230.74 Actions related to technology.

Discharge technology should be adapted to the needs of each site. In determining whether the discharge operation sufficiently minimizes adverse environmental impacts, the applicant should consider:

(a) Using appropriate equipment or machinery, including protective devices, and the use of such equipment or machinery in activities related to the discharge of dredged or fill material;

(b) Employing appropriate maintenance and operation on equipment or machinery, including adequate training, staffing, and working procedures;

(c) Using machinery and techniques that are especially designed to reduce damage to wetlands. This may include machines equipped with devices that scatter rather than mound excavated materials, machines with specially designed wheels or tracks, and the use of mats under heavy machines to reduce wetland surface compaction and rutting;

(d) Designing access roads and channel spanning structures using culverts, open channels, and diversions that will pass both low and high water flows, accommodate fluctuating water levels, and maintain circulation and faunal movement;

(e) Employing appropriate machinery and methods of transport of the material for discharge.

§ 230.75 Actions affecting plant and animal populations.

Minimization of adverse effects on populations of plants and animals can be achieved by:

(a) Avoiding changes in water current and circulation patterns which would interfere with the movement of animals;

(b) Selecting sites or managing discharges to prevent or avoid creating habitat conducive to the development of undesirable predators or species which have a competitive edge ecologically over indigenous plants or animals;

(c) Avoiding sites having unique habitat or other value, including habitat of threatened or endangered species;

(d) Using planning and construction practices to institute habitat development and restoration to produce a new or modified environmental state of higher ecological value by displacement of some or all of the existing environmental characteristics. Habitat development and restoration techniques can be used to minimize adverse impacts and to compensate for destroyed habitat. Use techniques that have been demonstrated to be effective in circumstances similar to those under consideration wherever possible. Where proposed development and restoration techniques have not yet advanced to the pilot demonstration stage, initiate their use on a small scale to allow corrective action if unanticipated adverse impacts occur.

(e) Timing discharge to avoid spawning or migration seasons and other biologically critical time periods;

(f) Avoiding the destruction of remnant natural sites within areas already affected by development.

§ 230.76 Actions affecting human use.

Minimization of adverse effects on human use potential may be achieved by:

(a) Selecting discharge sites and following discharge procedures to prevent or minimize any potential damage to the aesthetically pleasing features of the aquatic site (e.g. viewscapes), particularly with respect to water quality;

(b) Selecting disposal sites which are not valuable as natural aquatic areas;

(c) Timing the discharge to avoid the seasons or periods when human recreational activity associated with the aquatic site is most important;

(d) Following discharge procedures which avoid or minimize the disturbance of aesthetic features of an aquatic site or ecosystem.

(e) Selecting sites that will not be detrimental or increase incompatible human activity, or require the need for frequent dredge or fill maintenance activity in remote fish and wildlife areas;

(f) Locating the disposal site outside of the vicinity of a public water supply intake.

§ 230.77 Other actions.

(a) In the case of fills, controlling runoff and other discharges from activities to be conducted on the fill;

(b) In the case of dams, designing water releases to accommodate the needs of fish and wildlife.

(c) In dredging projects funded by Federal agencies other than the Corps of Engineers, maintain desired water quality of the return discharge through agreement with the Federal funding authority on scientifically defensible pollutant concentration levels in addition to any applicable water quality standards.

(d) When a significant ecological change in the aquatic environment is proposed by the discharge of dredged or fill material, the permitting authority should consider the ecosystem that will be lost as well as the environmental benefits of the new system.

ENDNOTES

1. The state water quality certification process is authorized by Section 401 of the Clean Water Act, 33 U.S.C. §1341.

2. A Tribe is eligible for treatment as a State if it meets the following criteria: 1) it is federally recognized; 2) it carries out substantial government duties and powers over a Federal Indian Reservation; 3) it has appropriate regulatory authority over surface waters of the reservation; and 4) it is reasonably expected to be capable of administering the relevant Clean Water Act program. EPA is currently developing regulations to implement Section 518(e) for programs including Section 401 certification which will provide further explanation of the process tribes must go through to achieve state status. In addition, the term "state" also includes the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, American Samoa, the Commonwealth of the Northern Mariana Islands, and the Trust Territory of the Pacific Islands.

3. The National Wetlands Policy Forum, chaired by Governor Kean of New Jersey, represents a very diverse group of perspectives concerned with policy issues to protect and manage the nation's wetland resources. The goal of the Forum was to develop sound, broadly supported recommendations to improve federal, state, and local wetlands policy. The Forum released its recommendations in a report, "Protecting America's Wetlands: An Action Agenda" which can be obtained from The Conservation Foundation, 1250 24th Street, NW, Washington, D.C. 20037.

4. 33 U.S.C. §4.1313 (c)(2)(A).

5. Section 301(b)(1)(c) of the Clean Water Act.

6. If the applicant is a federal agency, however, at least one federal court has ruled that the state's certification decision may be reviewed by the federal courts.

7. 33 C.F.R. §328.3 (Corps regulations); 40 C.F.R. §232.2(q) (EPA regulations).

8. For instance, except for wetlands designated as having unusual local importance, New York's freshwater wetlands law regulates only those wetlands over 12.4 acres in size.

9. Alaska Administrative Code, Title 6, Chapter 50.

10. Kentucky Environmental Protection Act, KRS 224.005(28).
11. Tennessee Water Quality Control Act, §69-3-103(29).
12. Massachusetts Clean Waters Act, Chapter 21, §26.
13. K.R.S. 224.005(28) (Kentucky enabling legislation defining waters of the state); 401 K.A.R. 5:029(1)(bb) (Kentucky water quality standards defining surface waters); Ohio Water Pollution Control Act, §6111.01(H) (enabling legislation defining waters of the state); Ohio Administrative Code, §3745-1-02(DDD) (water quality standards defining surface waters of the state).
14. Massachusetts Clean Waters Act, Chapter 21, §26 (enabling legislation defining waters of the state); 314 Code of Mass. Regs. 4.01(5) (water quality standards defining surface waters).
15. Ohio Administrative Code, 3745-32-01(N).
16. 40 C.F.R. §131.
17. A use attainability analysis (40 C.F.R. §131.10(g)) must show at least one of six factors in order to justify not meeting the minimum "fishable/swimmable" designated uses or to remove such a designated use. The analysis must show that attaining a use is not feasible because of: naturally occurring pollutant concentrations; natural flow conditions or water levels that cannot be made up by effluent discharges without violating state water conservation requirements; human caused pollution that cannot be remedied or that would cause more environmental damage if corrected; hydrologic modifications, if it is not feasible to restore the water to its original conditions or operate the modification to attain the use; natural non-water quality physical conditions precluding attainment of aquatic life protection uses; or controls more stringent than those required by §301(b) and §306 would result in substantial and widespread economic and social impact.
18. Questions and Answers on Antidegradation (EPA, 1985). this document is designated as Appendix A of Chapter 2 of EPA's Water Quality Standards Handbook.
19. The regulations implementing Section 404(b)(1) of the Clean Water Act are known as the "(b)(1) Guidelines" and are located at 40 C.F.R. §230.
20. 40 C.F.R. §230.1(d)
21. 40 C.F.R. §230.10(c).
22. Code of Maryland Regulations Title 10, §10.50.01.02(B)(2)(a).

23. Minnesota Rules, §7050.0170. The rule states in full:

The waters of the state may, in a state of nature, have some characteristics or properties approaching or exceeding the limits specified in the water quality standards. The standards shall be construed as limiting the addition of pollutants of human activity to those of natural origin, where such be present, so that in total the specified limiting concentrations will not be exceeded in the waters by reason of such controllable additions. Where the background level of the natural origin is reasonably definable and normality is higher than the specified standards the natural level may be used as the standard for controlling the addition of pollutants of human activity which are comparable in nature and significance with those of natural origin. The natural background level may be used instead of the specified water quality standard as a maximum limit of the addition of pollutants, in those instances where the natural level is lower than the specified standard and reasonable justification exists for preserving the quality to that found in a state of nature.

24. No. 83-1352-I (Chancery Court, 7th Division, Davidson County, 1984) (unpublished opinion).

25. These criteria are at 401 K.A.R. 5:031, §2(4) and §4(1)(c), respectively.

26. Ohio Admin. Code, §3745-32-05.

27. Ohio Admin. Code, §3745-1-05(C).

28. Copies of Ohio's review guidelines are available from Ohio EPA, 401 Coordinator, Division of Water Quality Monitoring and Assessment, P.O. Box 1049, Columbus, Ohio 43266-0149.

29. 40 CFR §131.12.

30. 48 Fed. Reg. 51,400, 51,403 (1983) (preamble).

31. Kentucky Water Quality Standards, Title 401 K.A.R. 5:031, §7.

32. Minnesota Rules, §7050.0180, Subpart 7.

33. 314 Code of Massachusetts Regulation, §4.04(4).

34. Minnesota Rules, §7050.0180, Subpart 9.

35. H.R. Rep. No. 91-127, 91st Cong., 1st Sess. 6 (1969).

36. 115 Cong. Rec. H9030 (April 15, 1969) (House debate); 115 Cong. Rec. S28958-59 (Oct. 7, 1969) (Senate debate).

37. C.F.R. §323.2(d). However, in *Reid v. Marsh*, a case predating these regulations, the U.S. District Court for the Northern Corps District of Ohio ruled that "even minimal discharges of dredged material are not exempt from Section 404 review". In this district, the Corps treats all dredging projects under Section 404.

38. West Virginia Code, §47-5A-1 (emphasis added).

39. Clean Water Act, §401(a)(2).

40. 40 C.F.R. §230.10(a).

41. 40 C.F.R. §230.10(d).

42. *Arnold Irrigation District v. Department of Environmental Quality*, 717 Pac.Rptr.2d 1274 (Or.App. 1986).

43. *Marmac Corporation v. Department of Natural Resources of the State of West Virginia*, C.A. No. CA-81-1792 (Cir. Ct., Kanawha County 1982).

44. 33 U.S.C. §1313(c)(2)(A).

45. West Va. Admin. Code, §47-5A-9.3 (a).

46. Unpublished paper by Dr. Paul Hill of West Virginia's Department of Natural Resources. Prepared for EPA-sponsored December 1987 workshop on "The Role of Section 401 Certification in Wetlands Protection".

47. 33 C.F.R. §325.2(b)(ii).

48. 18 C.F.R. §4.38(e)(2).

49. 40 C.F.R. §124.53(c)(3).

50. Wisconsin Administrative Code, NR 299.04.

51. West Va. Admin. Code, §47-5A-4.3.

52. Id.

53. 40 C.F.R. §121.2. EPA's regulations implementing Section 401 were issued under the 1970 Water Pollution Control Act, (not the later Clean Water Act) and thus, may have some anomalies as a result.

54. This is a reference to Section 10 of the Rivers and Harbors Act.

55. Ohio Admin. Code, §3745-32-05.

56. See, e.g., P. Adamus, Wetland Evaluation Technique (WET), Volume II: Methodology Y-87 (U.S. Army Corps of Engineers Waterways Experiment Station, Vicksburg, MS, 1987); L. Cowardin, Classification of Wetlands and Deepwater Habitats of the United States (U.S. Fish and Wildlife Service 1979). See also Lonard and Clairain, Identification of Wetland Functions and Values, in Proceedings: National Wetlands Assessment Symposium (Chester, VT: Association of State Wetland Managers, 1986) (list of twenty five methodologies).

57. See, e.g., R. Tiner, Wetlands of the United States: Current Status and Recent Trends (U.S. Govt. Printing Office 1984) (National Wetlands Inventory). The National Wetlands Inventory has mapped approximately 45 percent of the lower forty eight states and 12 percent of Alaska. A number of regional and state reports may be obtained from the National Wetlands Inventory of the U.S. Fish and Wildlife Service in Newton Corner, MA. Region 5 maps can also be ordered from the U.S. Geological Survey's National Cartographic Information Center in Reston, VA.

58. The new joint Federal Manual for Identifying and Delineating Jurisdictional Wetlands, can be obtained from the U.S. Government Printing Office 1989).

59. See, e.g., Chesapeake Bay Critical Areas Commission, Guidance Paper No. 3, Guidelines for Protecting Non-Tidal Wetlands in the Critical Area (Maryland Department of Natural Resources, April 1987).

60. For information on the Wetlands Values Data Base contact: Data Base Administrator, U.S. Fish and Wildlife Service, National Energy Center, 2627 Redwing Road, Creekside One, Fort Collins, Colorado, 80526. Phone: (303) 226-9411.

61. For example, Florida's Section 380 process designates "Areas of Critical State Concern" which often include wetlands. Florida Statutes §380.05.

62. 40 C.F.R. §230.80 (1987).

63. 16 U.S.C. §1452(3) (1980). See also, U.S. Army Corps of Engineers, Regulatory Guidance Letter No. 10 (1986).

64. See D. Burke, Technical and Programmatic Support for 401 Certification in Maryland, (Maryland Department of Natural Resources, Water Resources Administration, December 1987) (unpublished); A. Lam, Geographic Information Systems for River Corridor and Wetland Management in River Corridor Handbook (N.Y. Department of Environmental Conservation) (J. Kusler and E. Meyers eds., 1988).

The system described by Burke is called MIPS (Map and Image Processing System) and is capable of translating a myriad of information to the scale specified by the user.

65. See, e.g., [multiple authors], "Ecological Considerations in Wetlands Treatment of Municipal Wastewaters," (Van Nostrand Reinhold Co., New York, 1985); E. Stockdale, "The Use of Wetlands for Stormwater Management and Nonpoint Pollution Control: A Review of the Literature," (Dept. of Ecology, State of Washington 1986); "Viability of Freshwater Wetlands for Urban Surface Water Management and Nonpoint Pollution: An Annotated Bibliography," prepared by The Resource Planning Section of King County, Washington Department of Planning and Community Development (July, 1986).

66. The Warren S. Henderson Wetlands Protection Act of 1984, Fla. Stat. §403.91 - 403.938, required the Florida Department of Environmental Regulation to establish specific criteria for wetlands that receive and treat domestic wastewater treated to secondary standards. The rule is at Fla. Admin. Code, §17-6.

67. Maximization of sheet flow.

68. Hydrologic loading and retention rates.

69. Id.; See also L. Schwartz, Criteria for Wastewater Discharge to Florida Wetlands, (Florida Department of Environmental Regulation) (Dec. 1987) (unpublished report).

70. Copies of the draft, "Use of Advance Identification Authorities under Section 404 of the Clean Water Act: Guidance for Regional Offices", can be obtained from the Regulatory Activities Division of the Office of Wetlands Protection (A-104F), EPA, 401 M Street, SW, Washington, D.C. 20460.